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THE

VETERINARIAN;

OR

MONTHLY JOURNAL OF VETERINARY SCIENCE,

FOR 1854.

VOL. XXVII—VOL. VII, THIRD SERIES.

EDITED BY

MR. PERCIVALL.

Ars Veterinaria post medicinam secunda est.—*Vegetius.*

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THE

VETERINARIAN.

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DANGER, FROM LOSS OF BLOOD, IN REMOVING WARTS FROM CATTLE.

Cases by W. A. Cartwright, M.R.C.V.S., Whitchurch, Salop.

On the 1st of June, 1846, I removed several warts from the linea alba of a year-old heifer, belonging to Samuel Worthington, Esq., of this town. I cast her, and cut them off with the knife, and did not apply anything to the wounds, as they did not bleed an ounce. I could see one or two large blood-vessels on the surface of the wounds. We loosed her from the hobbles, and then tied her up, and the wounds soon left off bleeding. Gave her an aperient, and left her for the night.

The next morning she was found down, and could scarcely get up from loss of blood, which continued to issue through a large band that was passed round her. I was immediately sent for; but was gone to Liverpool. They, in consequence, applied to a druggist, who sent some alum water, which stopped the blood. In a day or two I saw her; but as a scab was then forming on the wounds, I did not meddle with it; soon afterwards the parts were cicatrized.

Observations.—There is no doubt but that, after she was left, she commenced licking the wounds, and so brought on the secondary hæmorrhage. The person who looked after her believes that, had not something been done at the time, she would have bled to death. From this and other cases that I have seen, I think it absolutely necessary that we should guard against the animals licking themselves, and perhaps it would be quite as well to apply the cautery to the parts after removing the warts, or subsequently.

TWO CASES OF MALIGNANT SORE THROAT.

(By the same.)

Case 1.—On the 25th of April, 1845, Mr. Skitt, of Corra, brought a cart-mare to me (a distance of four miles) that was ill, and could not feed. He thought her not well the previous day, and got her bled.

Symptoms.—Slavers, and cannot eat or swallow anything. I tried her with some water, but being unable to swallow it, it all came back through the nostrils. I now examined her mouth and throat. There was no external swelling about the throat, nor was it sore. With very great difficulty I could open her mouth with the balling-iron; but it evidently gave her much pain. I could not detect anything amiss with the inside of the mouth, but I was certainly convinced that there was something wrong about the jaws; and, on examining the exterior of the cheeks, I discovered that there was, on the left side, a diffused swelling there, but which was little or not at all "pointed." To me it had more the feel and appearance as if he had received a blow on the cheek, since the fluid contained therein could be moved about; but there was not the least abrasion on the part. I ordered it to be well fomented, and sent some aperient medicine.

27th.—A great deal worse. The cheek is about the same; but her throat is now so very sore, that she cannot swallow anything, and we dare not drench her. Slavers a great deal, and liquids come back through the nostrils. The breath is now offensive, and there is some little discharge from the nostrils.

29th.—Cast her, but could detect no obstruction nor any material enlargement about the mouth or larynx. Blistered the throat with Ung. Hyd. Bin. Breath stinks most awfully, and there is a great discharge of putrid matter from the nostrils. The tumour on the cheek is still diffused, but can be moved about and heard gurgling. Lanced it, and found it to contain a little putrid matter, and strings of the fascia could be drawn out. The abscess extended quite to the flat side of the lower jaw, and occupied a great extent. I see very clearly that little can be done, since she cannot swallow the least thing to support life, and since the disease has assumed from the beginning a putrid and typhoid character. Continue to steam the nostrils, and apply fomentations and poultices to the throat, and give oatmeal enemas.

May 2d.—At night, she died. Another was taken ill this morning.

Post-mortem examination.—On cutting through the external masseter muscle, I found that the abscess on the cheek had burrowed under the greater part of the flesh, and had nearly opened between the grinders into the mouth. The parts were in a highly decomposed and putrid state. There was an abscess or two, rather superficially situated, on the outside of the throat, containing a little putrid matter.

I now sawed open the head, and laid bare the laryngeal region, about which were some extensive ravages of disease of a most malignant and putrid nature. The whole of the exposed surfaces were of a brown-red colour. The guttural pouches and all the parts in sight were coated with dark coloured mucus. On the inside of the lower jaw, in the near side, there was a similar abscess to what there was on the outside of the off side, containing much matter, highly offensive, and extending under the whole of the masseter and other muscles. There were also several other abscesses, containing similar unhealthy pus around the larynx and fauces, and burrowing in every direction. I may, in short, say, that the whole of the parts about here were a mass of putrid disease, although the swelling about the throat externally was scarcely discernible. The sinuses of the head were gorged with blood

Observations.—This was one of the most malignant cases I ever saw of sore throat. The mare swallowed anything during her illness. At the first day or two her breath was very offensive, and there was great discharge of putrid matter from the nostrils. Her respiration was not much oppressed until the last or so, although her trachea was highly diseased. The mare coughed, but with great difficulty.

Case 2.—On the 1st of May, 1845, another cart-mare was taken ill that stood up with the one whose case has been related. She was observed to be unwell when taken to the pit to be watered in the morning, where she was found not able to swallow.

2d.—I first saw her. There is no swelling on the cheeks, and she can open her mouth almost as well as usual. Moves her jaws about a good deal, and there is much saliva in her mouth. There is tenderness and swelling around the throat, but not to any great extent. Looks pretty lively, but cannot eat or swallow much aliment. Put a large rowel under the jaws, and blister the throat, extending it down the neck, very severely; and let the head and nostrils be well steamed, and give aloes ʒiv.

3d.—Can eat much better.

5th.—As bad as ever. Cannot swallow; and all that she masticates, on attempting to swallow, is coughed back again through the mouth and nostrils. Is very thirsty, and would, if she could, swallow,—indeed, soon empty a bucket; but all returns through her nostrils. The breath is now very offensive, and much matter comes down her nostrils. Give three calomel powders in the course of the day.

7th.—About the same. Wants to eat, but cannot swallow. Ordered good oatmeal gruel clysters (4) to be given every two or three hours, as she is sinking fast.

9th. Blisters have risen well; but she is no better. Coughs with difficulty. Discharge from nostrils is great and very offensive,—smells as bad indeed as if it came from diseased bones. We now commenced giving brandy and tonics, every four hours, in a little gruel, which with great difficulty she can swallow in small quantities. Sent this day six powders, each containing Pulv. Cinchon., ℥ss; Lyttæ, gr. iv; Pip. Jam., ʒij.

13th.—About the same,—certainly no worse. There is no swelling, except from the blister, about the throat externally. Rowel discharges sanious matter.

16th.—Still the same. Can swallow a little. Sent a mass containing ʒss doses of Hyd. Chlor. c. Opio, to be given every four hours in gruel, and also some Ung. Hyd. fort., to be rubbed into the throat and about the ears.

19th.—Is better. I found her out grazing; but there is evidently some palsy of the muscles concerned in deglutition and mastication, as she has a difficulty to swallow the grass when masticated, and the lower lip is pendulous, and shakes about when she chews. She can bite the grass off fast enough, and even chew it, but when it gets between the grinders and buccinator muscles, she seems to have a difficulty in removing it. Her breath is but little offensive now. The rowel has been taken out for a day or two, and the parts look healthy, the wound being nearly filled up. I believe she has been rolling in the fields several times; she trotted off from me, although she is miserably poor and hollow. Ordered to be well supported with any sort of food she will eat or drink, and to continue the ointment to the throat.

21st.—This morning she was thought to be going on very well and the owner believed that she would get well; when, on going to see her again in the course of the morning, he found her issuing blood very badly from the nostrils, there being in the pit and ground a quantity of blood found. She was brought up into the stable, where she died, immediately;

no doubt from loss of blood from the rupture of blood-vessel somewhere about the larynx, most probably the result of ulceration.

I am sorry I had not an opportunity of opening her, she being ordered to be buried immediately, by order of her master's landlord, J. W. Dod, Esq., now M.P. for North Shropshire.

VENTRAL HERNIA.

By S. Davis, M.R.C.V.S., Towcester.

Sir,—I beg to offer the enclosed account of a case of ventral hernia, resulting from external violence, should you deem it worthy of a place in your invaluable periodical.

Thursday, October 4, 1853, at half-past six, a.m., I was requested to attend a black draught-mare, the property of Mr. E. G. Adkins, who resides about two miles from Towcester. On my arrival, I was informed that on the previous evening, the mare had been turned into a small enclosure, bounded on one side by a brook, and that this morning the wagoner found her in the said stream, into which, being blind, she had unfortunately fallen. She was, however, immediately extricated and led to the stable, when a considerable enlargement on the abdomen was observed. I saw the patient about an hour afterwards, by which time the swelling alluded to had entirely disappeared, and, with the exception of a few slight abrasions about the extremities, there appeared nothing amiss. I left her feeding, apparently comfortable. Next morning I was sent for, to see the mare immediately, the man stating that the swelling had returned.

Symptoms.—Pulse and respiration normal; fæces natural On the right side of the abdomen there is an extensive enlargement of an irregular oblong figure, extending from the lower extremity of the sixteenth rib, backwards to the papillæ. It measures about seventeen inches long, and one foot in width. The swelling is perfectly elastic to the feel. The mare does not evince any particular dislike to its being handled. I at once told Mr. A. that the tumour was caused by a protrusion of the intestines through a wound in the abdominal muscles, and that, in all probability, the case would turn out a serious affair. Abstracted five quarts of blood, and gave an aperient. Ordered hot fomentations long continued to the swelling. The patient to have moist diet, and very little hay allowed.

6th. This morning, there is increased sensibility about the

hernial tumour. A large flattened swelling has also made its appearance on the most depending part of the belly, which pits deeply and very readily on pressure being applied. No constitutional disturbance manifest. Fomentation continued, and restrictions as to diet to be observed.

10th. General health of the animal continues, comparatively, unimpaired. Pulse thirty-six. Bowels well open. Ordered her to be kept entirely without hay, and very little bran and water to be allowed. Œdema decreasing.

12th. To-day, the tumour is much smaller and less resistent to the touch: this I attribute to the comparatively empty state of the intestines, the animal having been fasted since last date. Thinking this the most favorable state of things that I could hope for, with regard to the possibility of reducing the hernia, I at once determined to make the attempt. Having ready a broad bandage, about seven feet in length, made of strong material, to the ends of which were affixed stout straps and buckles (being at that part intended to come immediately over the seat of injury), a large pad was placed underneath; and by various manipulations, aided by the pressure afforded by the bandage, regulated by an assistant, I succeeded in accomplishing the reduction of the protruded intestine; which done, the compress was firmly buckled in its place. Low diet strictly enjoined. From this date to the 24th, the mare's health continuing good, and fæces passing naturally, no medicine was given. The bandage was merely tightened as occasion required.

On the 24th of October, the compress was cautiously removed, and to my great satisfaction I found that the hernia had disappeared. I however readjusted the truss, and ordered the mare's rations to be gradually increased.

On the 29th, she was put to work, with a light load at first, and from that time has resumed her usual labour, which, up to this date, she has performed quite satisfactorily.

I ought to have mentioned that the bandage was allowed to remain on for some weeks after the mare had re-commenced work.

I remain, Sir, &c. &c.

RECOVERY AFTER PROTRUSION OF THE INTESTINE, IN CASTRATION.

By T. Hurford, V.S. 15th Hussars, Bangalore, India.

My Dear Sir,—I was very much amused by Mr. Dyer's letter in the *Veterinarian* for August about gentian. I fear he

proves too much, for it is rather in *excess* to say, that aloes and gentian will not purge, but that the common cordial mass, or gentian and ginger, will. This is far too rich However, I am not going to worry you with the old story: satisfied of the truth of my position, I continue to avail myself of it in my own practice.

I am going to tell you of a case which is unique in *my* practice; it is a case of castration. One of our officers bought at Trichinopoly a Cape Horse, and a few days after noticed an enlarged scrotum. Continuing to get larger, he sent him to Bangalore for my opinion, and for castration, if I thought fit. I said no: the horse had hernia with hydrocele; and when I saw him the scrotum was an *enormous* size. I tried iodine, internally and externally, but could produce no effect. After a time, the officer, who was on Court Martial duty, returned; and after deliberation, as the horse was useless in his present state, he begged of me to operate. I consented, on condition that the horse was to be immediately destroyed if I thought proper. I prepared the horse, and arranged to operate on a certain day; but, as luck would have it, a brigade day was ordered, and his owner could not be present, which saved the animal's life; for I would not delay the operation; but, having cast and secured him on his back, I commenced. The testicle was wasted; but I found I had been right in my prognosis: a large volume of intestine was protruded. As the owner was not present, I did not like to shoot the poor beast. The ring *was so large* I found no difficulty in returning the intestine, but much in keeping it returned. However, two large pledgets of tow, a claw put on high up, and sutures in the scrotum, did it. I also removed the other. I was of course obliged to watch him narrowly, to bleed him twice, to use belladonna freely, and other means, which, as I keep no register of officer's horses cases, I cannot enter into more minutely; suffice it to say, the animal is quite recovered, and during the process of healing had no untoward symptoms.

This is a curious case to me, for I have cut many hundreds of horses, and know of no other like it. Had the owner been there, I should have had the brute shot; for I considered the case hopeless. Although not given to despair generally, it has been a lesson to me, to persevere against hope.

So there is the object of my writing: if it be of any use to the *Veterinarian*, I shall be very glad, and if not, I can only regret I have nothing better worth your pages. I have had lots of sickness,—fevers, &c. &c., but nothing out of the

common routine. I hope you have had the mylabris, and tried its power as a blister. So now, good-bye. If I remain here, I should like to have a line from you; and if I go home, I shall hope to see you again.

Believe me, my dear Sir,
Very sincerely yours.

BANGALORE;
October, 1853.

DISEASES OF ANIMALS IN INDIA.

DIARRHŒA, &c.

By J. T. HODGSON, V.S.

IN India, the cereals are grown in the cold season, and the harvest being at the beginning of the hot season, it is always well got in; the subsequent periodical rains, however, frequently damage grain in the transit, both by land and in boats: besides, grain and pulses are hoarded by merchants, who well know that drought occurs, in some parts of the country, every three or four years, and then prices are higher, even for damaged mouldy grain, eaten by weavels. Rice is the rainy season crop; upland rice is best for the table, and it is in general washed with alum water before being cooked; lowland rice being more inundated, is sometimes in a slimy condition; but, as the husk is removed, and it is washed and cooked, I think it is the low quality, and the greater quantity required to satisfy, that causes Ouse rice to be sometimes injurious to man. For the same reason, (ahân) rice in the husk is improper food for horses and other animals; but poultry and wild-fowl thrive when fed with it, if they be kept in clean, in well-ventilated places, with the use of fresh flowing water.

We know the gastric secretion is powerfully antiseptic; therefore a small quantity of grain in the condition describe d, might not be injurious, but highly deleterious in greater quantity. The same remarks apply to grass, which, in the rains, is very apt to smell musty, and even become mouldy.

Diarrhœa is caused by high and low feeding, and by the quality of the food, and when the bowels are thus disordered, the natives give in the food, during the day, two ounces of (kalah nimuck) rock salt, coloured with red sulphuret of iron, which has the effect of removing the fetidness and slimy state of the bowels for which it is given; and not with the view of counteracting any deleterious agent attached to the

food, and for which salt has been given to man as a preventive of cholera. Salt has been long used as preservative of the health of animals, even salt marshes to sheep; and salt has been used as corrective of mouldy hay, which is then eaten by animals. It is not usual to give salt to horses in England; but you must start in India with an unprejudiced mind, as many native customs, in the management of animals, somewhat different to those of Europeans, are beneficial under particular circumstances of the country.

In many parts of India—the regular cavalry and irregular cavalry, indeed, in all parts, are without stables, exposed to cold at night, in the cold season, in the rains perhaps for several days, having their clothing saturated, and from the sympathy existing between the skin, the thoracic, and abdominal viscera, it is not to be wondered at, that the latter are very liable to become, at such times, affected with diarrhœa; but it has not, in my experience, ever run into choleraic symptoms, or been fatal as diarrhœa alone.

The most frequent cause of diarrhœa in animals in India is green grass of quick growth from the great heat. It is dried as soon as the sun appears; but it is only at the stud depôts that hay is made in great quantity, and kept for future use. It unfortunately happens that cavalry are so liable to be removed from one station to another, or on service, this cannot be done without risk of loss, and the natives do not make hay, except near the presidencies, where there is demand for it.

Cereals and pulses being trodden out of the straw, it is thereby broken into chaff, upon which they feed cattle: it can always be had, and is the best means, mixed with grain, to prevent either diarrhœa from too much grain or green grass. I recollect rye causing diarrhœa to horses in Spain; yet the Germans feed horses with rye, but mixed with chaff, and bait with leavened rye bread.

The ordinary food of animals with the army in India is as follows:

Horses	. 10 lbs. of grain,	Grass-cutters allowed.	
Oxen . .	4 lbs.	„	14 lbs. of chaff, or 20 lbs. of dried grass.
Camels	. 3 lbs.	„	20 lbs of chaff.

The allowance of grain for horses was reduced 1 lb. during the hot weather and rains. The quantity of grain is doubled for oxen and camels in extra work. Elephants are allowed wheaten meal for unleavened cakes, and aloes as masaulah. Cordial seeds and masaulahs are also occasionally allowed for

oxen and camels: an instance of the feeding and masaulah for an express camel, I gave in the *Veterinarian*, p. 126, for 1849,—without which the camel could not perform such a journey without diarrhœa.

It is well understood by the natives that animals are very liable to diarrhœa, if worked without extra food or masaulah, and rapidly lose flesh, particularly such as described by an able observer and writer, Mr. Hurford, V.S. of H.M. 15th Hussars, in No. 59 of the *Veterinarian* for November, 1852: —"The Bengal stud horses," of late years, "their thin chests without breadth and depth, their long attenuated limbs, and the greyhound run of their flanks, proclaim their utter deficiency in those points which constitute the beauty of the troop-horse."

In a campaign, such formed horses, oxen, or camels, under privation, would have diarrhœa, and when neither food nor masaulahs are readily procurable after a long march, a native will give (if he can get it in the bazaar of the village) an ounce of alum in the horse's water, to prevent this disposition to diarrhœa at such times.

In regard to the diarrhœa which supervenes in other diseases, it is in general that of the lungs, in which the functions of the abdominal viscera are always more or less disturbed. The following is what a practical man has written on the subject:

"Cold or wet suddenly applied to the surface of the body, especially when heated, checking or suppressing perspiration, may, on the principle of derivation, throw an inflammation upon the bronchial membrane, or upon that of the bowels, and the two irritations, bronchitic and gastro-enteritic, may exist simultaneously. It is this known sympathy between these two membranes which deters us from giving aloes or anything likely to irritate the bowels in bronchitis; being in very great danger of becoming troubled with diarrhœa, if we do, at the same time." *

During the hot season in India horses perspire freely without exertion, and being then exposed to cold rain, you will soon have practical, perhaps painful, proofs in your own person of the truth of the foregoing observations, or in that of your servants, and horses, being also suffering from fever. The causes of diarrhœa must, therefore, be first ascertained before we can expect to treat it with success. When arising during the rains from eating the fresh-grown green grass, I used to give Mr. Bracy Clark's gripe tincture, and I had seldom occasion to use the chalk and opium mixture.

* Diseases of the Chest, &c., by Mr. W. Percivall, M.R.C.S., &c., 2d edition, p. 93.

The wealthy natives not only display it by fattening themselves, but their animals. Horses of native princes, in particular, are generally in the condition of cattle at an English prize cattle show; their fæces are always in a loose slimy state, sometimes fetid from the high feeding upon boiled sheeps' heads, grain, sugar, and masaulahs, including narcotics: these horses are seldom worked, being kept only for parade; yet some Europeans are so foolish as to expect, and even try to make their horses look and be in the same condition, and will laugh at a veterinarian who might endeavour to put them in the right way.

The poorer native will travel fed upon parched grain and water, and work horses, camels, and oxen, sometimes without extra food from necessity, though in this low condition the work is slow and limited; this, however is contrary to their own notions of what is right.

I mention these things to the young veterinarian going to India; for he must bear in mind, however high his medical attainments and his practical knowledge of horses and stable management in England, like others, he will be considered a downright *griffin* for the first year, and continue one for three years; in other words, that period of time being supposed to make him acquainted with the country and natives. How long the new comer may remain so, depends upon his observations; but it is in this an old Indian commanding officer may consider a young man "inefficient" even after five years, during which period his professional merits and his correct and gentleman-like conduct has been periodically reported to head quarters. Principal veterinary surgeon was in the draft of the veterinary department given by me to the late principal veterinary surgeon, Coleman, in 1825. Why the nomination did not happen I am unable to explain. The first three appointed to Bengal were sent to the stud depôts, being most required there; yet one depôt, for reasons unknown, was many years without one, and may be so now, the stud being under a board of superintendence, and not the commander-in-chief, except as a member of the government.

Veterinary surgeons, like other officers, rank according to the dates of their commissions, therefore the *senior* might at one time belong to Her Majesty's, at another time to the Hon. East India Company's service; the former being under Her Majesty's principal veterinary surgeon. As in the directions for shoeing cavalry horses, lately issued, the latter might never have the circular communicated to them, *an anomalism* practically advantageous, the shoe not being adapted for cold shoeing by the natives; why, I will state

hereafter. Those who are interested should apply through Her Majesty's principal veterinary surgeon to the commander-in-chief, who has been in India, and is best able to judge in this matter. The Editor of the *Veterinarian* has very correctly stated the case, except that the medical board has nothing to do with the veterinary department; the depôts for medicine are under their charge, and documents, if checked or passed by a principal veterinary surgeon, as these no doubt should be, would ultimately go to the board as usual.

PLACENTA PRÆVIA.

By T. Younghusband, V.S., Greystoke.

Dear Sir,—Previous to my giving these few lines a consideration, I had been perusing an account of some cases of placenta prævia in the human subject, which brought to my mind, or rather recollection, two cases, which I think present a similarity.

The first case occurred a few years ago. It was a cow belonging to a Mr. Wright, then of Howhill, in my neighbourhood, but who now resides in the vicinity of the city of Carlisle. This explanation I give, lest I may be suspected of misgivings. Upon visiting this patient, I was informed, on that morning, Saturday, it being market-day at Carlisle, that Mr W. having started for the same, as he was travelling through his own field, in which the cows were grazing, his eye, as it were by accident, caught sight of a newly-passed placenta, and, knowing that one of the cows was near her regular time of parturition, he immediately returned, and informed his family that he suspected such a cow had calved from his having found the placenta, though he could find no calf, and that they were to look after her, and seek for the calf. The order was obeyed, but after a diligent search, no calf could be found. So they drove the cow home, attending to her as is usual in such cases, &c. While in the act, however, of milking, the cow began to show uneasiness, and to evince evident signs of approaching parturition, which gave cause for my being sent for. "On examining my patient, I found a dead fœtus, with all four legs presenting, which was with the greatest difficulty extracted; though, after its removal, with a little careful attention for a few days towards its mother, she ultimately did well.

Again, in November last, I was requested by a Mr. Merry-

weather, of Coldbeck, to attend a cow of his that had, previously to their starting for me, quitted the placenta, and showed great uneasiness. In this case, on making an exploration, I again found the fœtus presenting in a false position; but, after a little manual dexterity, I was enabled to remove a dead calf, of unusually large size. This case needed little more than common attendance, and is doing well.

HÆMATURIA.

By Samuel Brown, M.R.C.V.S., Melton Mowbray.

Sir,—Perhaps hæmaturia may be regarded as a disease of unusual occurrence in the horse, but, as in the course of our experience, we occasionally meet with cases of this disease in that animal, I conceive that a few cursory remarks on the nature and treatment of three cases which have been intrusted to my care, during the period of the last eighteen years, may be found worthy of a small space in your truly valuable Journal.

I have but a faint recollection of the first case, which occurred in the month of February, 1835. The patient was an old horse, and had been a valuable hunter; but at the time of his attack with the above disease, he was used for agricultural purposes. The history of the case was unsatisfactory, and gave little or no clue to any apparent injury of the kidneys, either from the horse having been drawn in cart-shafts with heavy loads, or from his having been cast in or out of the stable, or, in fact, from any accident which might have befallen him during his usual work. The patient became worse under the treatment which I adopted, and the steward (Mr. Lancaster), proposed to try the effect of a celebrated Yorkshire remedy for the "redwater" in neat cattle; and, through my having no hope of the recovery of the animal, I readily consented to his proposition. This remedy consisted of one pound of oatmeal with an equal quantity of common salt, mixed together, and then tied up in a piece of linen cloth, and put into the fire and burnt until the whole had become a red-hot cinder; when, it was taken out of the fire, powdered, and dissolved in a quart of warm water, in order to form the drink, which was immediately given to the horse. These medicinal agents had no beneficial effect. The urine became more scanty, and the flow of blood more copious and florid, until death closed life's journey. At the commencement of

the disease, the pulse was feeble and wanted tone, and the visible mucous membranes were pallid; but as the disease progressed, the urine became more scanty, and the flow of blood more copious, the mucous membranes blanched, and the pulse so small and indistinct that it was not perceptible by the finger.

The POST-MORTEM examination revealed the nature of the disease, proving it to be seated in the kidneys. These glands appeared to have been for a long time affected with a sub-acute inflammatory action, which had led to such enlargement and induration, as to render the kidneys more like two large scirrhosities than as having any resemblance of their true or original structure.

My attention was directed to the second case on the 5th day of August, 1838. The patient was a young cart-mare, full of flesh, which had been at gentle work, living upon nature's simple fare in the field during the summer months. This mare had sustained no known or apparent injury in the lumbar region, neither did her general health appear to be much impaired by the functional disturbance in her urinary organs. In this case the urine was scanty, voided in small quantities, and contained a considerable proportion of clotted blood, which could be best seen on the grass or litter, after the urine had separated from it. The animal was taken into the stable, and had her food changed to hay and mashes. Some plumbi acetas, in combination with opium and vegetable tonic, were formed into a mass, with bals. copaibæ and theriaca, and administered daily, until the kidneys had become restored to their healthy action and function; which desirable result was attained in the short space of three days. The mare was kept by her then owner for several years after this attack, and during that period she had no return of the complaint.

The third case of this disease occurred in my practice on the 31st of May, 1853. The subject of its attack is a very old horse which was kept formerly for several seasons as a hunter, but, owing to his legs not being able to stand that distressing work, he was sent into the cart-horse stable, where he has remained for the last ten or twelve years, living well and working hard, both on the farm and the roads. He had been a remarkably healthy animal previous to the attack of hæmaturia, never having been off work, either from accidental injuries, or any other ailment, during the whole period of his having been used for agricultural purposes. The medicines which were given in this case were similar to those that were administered in the second, and were prescribed with the same

satisfactory result. Although the patient voided large quantities of blood with his urine, he evinced little or no pain in the region of his urinary organs, neither did his general health appear to suffer much from the affection. His pulse was feeble and wanted tone, and the visible mucous membranes became rather blanched. The disease continued for several days, but the voiding of blood gradually became less and less, until it altogether ceased; after which desirable result had been attained, the animal soon appeared to acquire again his usual good health and condition, and apparently did his work with as much ease as he did before the attack. This apparent state of health and condition continued until the 18th of November last, at which time the old horse had a second attack of the malady. On this occasion, I was requested to send him some medicine similar to that which had been given him on the former occasion. Three balls were sent, to be daily administered, and these had the beneficial effect of assisting nature in the restoration of the animal to an apparent state of health and usefulness. But, the second attack leads me to suspect organic change in the kidneys; notwithstanding it may so turn out that the animal's health and usefulness be apparently restored, and continued up to a limited period.

The first case clearly shows that a morbid action in the kidneys leads to an impairment of their function, and also, that, should the morbid action be continued until it end in alteration of the organism, the function of those glands then becomes lost, and death ensues as a necessary consequence. But the second case may be regarded as one of *simple* functional disturbance in the kidneys, which might arise either from the effect of too great a determination of blood to the organs, or from an imperfect secretory action. While the third case still remains one of a doubtful nature; since such organic change may be still progressing in the kidneys as may ultimately lead to the destruction of their organism, and the consequent death of the animal.

In conclusion, you will please to accept the compliments of the approaching season, and my hearty good wishes for the success of your Journal; though I have not any wish to see it become either more bulky or more expensive;—but, if its allotted space should be filled with a larger number of original contributions from your numerous correspondents, it would show the world, *that the liberal minded members of the veterinary profession* (in this land of industry, the mother of invention, the nurse of liberty, and the cradle of science) *were actuated*

with such laudable zeal and becoming emulation, as enabled them to support a periodical which has for its objects the welfare and advancement of the veterinary art.

I am, dear Sir,
Yours truly.

December 13*th*, 1853.

*** We cordially return our thanks, with all the good wishes of the season, to our professional brother and well wisher, Mr. Samuel Brown. That the *Veterinarian*, now commencing its TWENTY-SEVENTH anniversary, has ever had other "objects" than those Mr. Brown has ascribed to it, we challenge contradiction. Its pages are open to every honest pen, no matter how narrow its calibre, so that its charge be substantial: they are shut only against the pen that would strew them with contention, and in the end break up their constitution altogether. There are many gentlemen in the profession, clothed with the grey hairs of honour and experience, who might leave behind them, in the *Veterinarian*, reminiscences of practice of a character at once of the utmost service to professional posterity, and such as would afford themselves, in after years, very great satisfaction in being able to see their labour of some utility to the profession they have lived by and still revere. Shall we for once—or ever again—hear from such estimable quarters?—or will they, like the empiric and his nostrum, suffer life's door to become closed, with the secrets in them, unrevealed?—ED. *Vet.*

FLOODING AFTER LABOUR IN A COW.

By W. Cox, M.R.C.V.S., Ashbourn.

ON the third of the present month, Mr. Hardy, of Carsington, near Wirksworth, requested my attendance on a cow of his. I found she had calved the day previous. The calf coming in a wrong position, the assistance of a friend of mine was procured, Mr. Bowler, a neighbouring farmer, who succeeded very soon in effecting delivery. But, from that time the cow became ill, refusing all food, &c.

Symptoms.—The pulse was very quick, but weak; the membranes blanched; quick, or rather laborious, breathing, which was more intense when the animal was standing; apparent constipation; the extremities cold, and nose dry. Suspecting ruptured uterus, I introduced my arm. Although the cow had discharged very little, I found it to be a case of

flooding. The uterus was full of coagulated blood. She was evidently sinking.

Treatment.—Having Tr. Opii with me, I procured some acetum, and mixed them together, andwith a sponge introduced a fair quantity into the womb. Stimulants were likewise administered, such as brandy, &c., and plenty of good gruel. Cold water was likewise constantly applied to the vulva, loins, &c. She seemed to rally a little before I left her; and at present she is perfectly well.

Remarks.—Did the bleeding proceed from a relaxed state of the vessels of the cotyledons, or from a rupture of one or more of the greater vessels? I am inclined to the former opinion. The placenta appeared before the fœtus, and to all appearance it all came away with it, at the time of calving. She had no after pains until I introduced my arms; which perhaps was beneficial in arresting the hæmorrhage, by inducing contraction of the uterus. In conclusion, let me exh ortthe young practitioner to examine per uterum, every case of illness in our patients, *immediately following parturition.* During this year, I have attended eleven cases of ruptured uterus in cows and sheep, in the majority of them, arising from the ignorance of persons in attendance on them at the time of their extremity. In two of the cases, it was produced by the animals falling down during the act of parturition, at the same time the fœtuses were not in a proper position. Some may object to this mode of examination. should their fingers be well hooped with valuable rings, it is not the most pleasant nor profitable way of proceeding. A visit and examination can only be charged for; the butcher's knife being then the only remedy. But lasting profit cannot be ensured without honour and honesty.

Yours, &c. &c.

VETERINARY JURISPRUDENCE.

COURT OF QUEEN'S BENCH, Westminster, November 29th.

(*Sittings at Nisi Prius, before* LORD CAMPBELL *and Common Juries.*)

HADLAND *v.* PRICE.

Mr. James, Q.C., and Mr. Petersdorff appeared for the plaintiff, and Mr. O'Malley, Q.C., and Mr. Power for the defendant.

This action was brought to recover the value of a race-horse named "Economy," and also money lent by the plaintiff to the defendant. The defendant pleaded the general issue to both counts, and, as to the count upon the horse, he also pleaded that it was not the plaintiff's horse.

The plaintiff (Hadland) was a licensed victualler in Poppin's Court, Fleet Street, and the defendant (Price) was a farmer and horse trainer at Chiddington, in the county of Buckingham. It appeared that the plantiff and defendant attended at the last Rochester and Chatham races, which took place on the 8th of September. The race was what was termed a "selling" race, which was explained to mean a race for which horses were entered upon the terms that the horse which won the race was to be sold by auction to the highest bidder; but the owner received only the price put upon the horse when it was entered, the balance going to the race-fund. Horses thus entered were weighted according to the amount put upon them, those of the highest price having the greatest weight. At the last Chatham races, the horse "Economy" won the Speculation Plate, and was afterwards sold by auction at the winning-post for 65 guineas. The question now was, whether the plaintiff or the defendant was the purchaser? According to the evidence given by the plaintiff and another person named Manning, the clerk of the Newmarket Jockey Club, who was standing by the auctioneer, the horse was knocked down to the plaintiff. The plaintiff then discovered that he had only £45 in his pocket, and, not wishing it to be known that he was the purchaser, he borrowed £23 5*s*. of the defendant, and, giving him the £45, got him to pay for the horse, and to take a receipt for the price in his name. According to the plaintiff's evidence, the defendant, when he had thus got the horse, refused to give it up to the plaintiff unless he would pay him £5 for his trouble; but the plantiff refused to give him more than half-a-sovereign. The defendant then kept the horse. The next day, the plaintiff again went down to Chatham, and then found that the horse "Economy" had been entered for the West Kent Stakes, in the name of a person named Hitchen. The plaintiff protested against this, and claimed his horse, but it was allowed to run, and it won the stakes, valued at £50, and was again sold the same day for an increased price. Evidence was also given to show that the defendant, on the day of the first sale, admitted the plaintiff had bought the horse, but stated that he (the defendant) had got an offer of £15 for the bargain, and that if the plaintiff would not give him £5, he would stick to the horse. The defendant sold the horse the same day.

For the defence, the defendant was himself called, and proved that he had several times bid for the horse, and that it was at last knocked down to him. He stated, that though he had a check for a considerable amount in his pocket at the time, he had only £23 5*s.* in cash, and that he borrowed the sum of £45 from the plaintiff to make up the amount required. He offered to return the borrowed money the same evening; but the plaintiff refused to accept it, alleging that he was the purchaser. The auctioneer who sold the horse was called, and he deposed that the defendant was the purchaser; but it appeared there was a large concourse, and considerable confusion at the time of the sale.

Lord Campbell having summed up the evidence, the jury retired to consider their verdict, and, upon their return into court, found for the plaintiff, with 100 guineas damages, reduced by the set-off to £82.

Verdict for the plantiff, with £82 damages.

Court of Exchequer.—Dec. 6th.

(*Sittings at Nisi Prius, at Westminster, before the Chief Baron and Special Juries.*)

PERCIVAL *v.* DUDGEON.—INJURY TO A HORSE.

This was an action to recover compensation in damages for an injury done to the plaintiff's horse, in consequence of the negligence of the defendant's servant.

Mr. Macauley and Mr. Willis appeared for the plaintiff, and Mr. Keating and Mr. Honeyman for the defendant.

It appeared that in June last, a Mr. Manning was riding a valuable grey horse belonging to the plaintiff, a horse-dealer, in St. Martin's Lane. The defendant's brougham was in a line of carriages passing up the lane, when the driver suddenly pulled out of the rank, and came in contact with the plaintiff's horse, striking him on the back of the near hind leg. In consequence of the collision, the horse was driven on to the pavement, and in endeavouring to maintain his footing, sprained and otherwise injured his back. The plaintiff had been offered £50 for the horse a short time before, but refused to sell him for less than 65 guineas. After the injury, the horse was kept for a month by the plaintiff, and then sold for about £15. The charge of the veterinary surgeon (which appeared, however, to be very high) amounted to £16.

For the defence, it was attempted to be shown that the accident occurred in consequence of the rider spurring the horse; and the defendant's driver stated that his brougham did not touch the animal. The evidence was of a very contradictory character. One of the witnesses for the defendant, however, stated that, immediately after the brougham had passed, the rider of the horse held up his whip in a threatening manner to the driver of the vehicle.

The jury found a verdict for the plaintiff, damages £48 8*s.* 9*d.*

Court of Common Pleas.

GODFREY *v.* LAMBERT.—ACCIDENT.

The plaintiff in this case is a member of the Chancery bar, and resides at Highgate; and the defendant, who lives at Finchley, is chairman of the Hampstead Water Works Company. The action was brought to recover damages for injuries sustained by the plaintiff's horse in consequence of the carelessness of the company's servants; and the plea was, not guilty.

Mr. Sergeant Shee and Mr. Ogle appeared for the plaintiff, and Mr. Sergeant Byles and Mr. Lush for the defendant.

The plaintiff's case was, that on the evening of the 8th of September in the present year, he was riding on horseback to Highgate, according to his usual custom. Nothing occurred until he got opposite the house No. 6, Highgate Rise. In June the Water Company had opened the road at this spot, in order to lay on the water at No. 6, and this had been so imperfectly done that the water had leaked out, and softened a part of the road. The plaintiff's horse trod upon this spot, and one of its fore feet sank in, to the depth of about halfway between the fetlock and the knee. The horse, consequently, fell, and broke both its knees, but the plaintiff escaped, unhurt. The horse had been purchased a short time before, when out of condition, for 60 guineas, and at the time of the accident was worth 80 guineas. The horse was, of course, very much injured, and in the present action it was sought to recover compensation for the loss which the plaintiff had so sustained. Upon examining the spot where the accident occurred, the plaintiff found the road to be in an exceedingly soft and dangerous state; indeed, so soft was it, that he thrust a walking-stick, which was produced, into it the distance of 29 inches.

Mr. Lush, at the conclusion of the evidence for the plaintiff, submitted that there was no case, and, in particular, he urged that there was no duty upon the company to repair a leaky pipe until notice had been given to them of the fact of the leak. This being so, there was no proof of negligence to support this action.

His *Lordship* said he did not think the action would lie, but it was best not to stop the case.

Evidence was given for the defendant, that the softness of the road was not caused by any leakage from the company's pipe; and it was suggested that it was most probably caused by a cistern in the vicinity, which frequently overflowed, the water from which ran on to the road. It appeared that in May there was no leakage in the pipe; in July it was thought that there was a leakage, but, upon examination, none was found; and three persons, who examined the spot in September, denied that there was any leakage from the company's pipe.

The *Chief Justice* directed the jury to consider only whether there was any leakage from the company's pipe in September; and it was agreed that it was not necessary to trouble them with the question of damages, which would, if they found for the plaintiff, be settled out of court.

The jury considered the matter, in private, for about two hours and a half, and they then came into court, and said there was no chance of their agreeing, seven of them being of one opinion and five of them of another; besides this, one of their number was unwell.

The *Chief Justice* said, that being so, he would discharge them without their giving a verdict.

The jury were discharged accordingly.

Bow Street.

FANCY PIGEONS.

Thomas Eagle, a dealer, was summoned to show cause why he illegally detained seven pigeons.

In the month of January last the Philoperisteron Society held its usual meeting at Anderton's Hotel, when Mr. Percivall, a coal merchant, exhibited a magnificent black barb Parkington's carrier, two Jacobins, one pouter, an almond tumbler, and a yellow mottled owl,—all of which were pronounced by the judges excellent, which were missed from his premises a short time after; and although search was made

in every direction, the owner could get no tidings of them until within the last few days, when he discovered them at the defendant's shop.

The defendant's answer was, that he had purchased the birds in the usual way, and it was impossible for any fancier or the best judge to identify such property, particularly as they must alter very much in their appearance in the moulting season: in addition to which, he had kept them ever since publicly in his shop for sale.

The complainant maintained, that although birds changed plumage to a certain extent at such a time, he, or any other amateur, could easily distinguish any bird he had reared.

After a lengthened discussion they were ordered to be given up.

HORRIBLE TREATMENT OF A HORSE.

The following statement has been forwarded to us by the secretary to the Society for the Prevention of Cruelty to Animals. Our readers will, of course, suspend their judgment until the case has been heard:—"On the Thursday before, a bay cob, the property of Mr. Deane, of the Crown Hotel, Erith, was sent to a brewer named Rowlands, in the same village, on trial, with a view to a sale, if the animal suited the work. On the Friday it was tried, when it refused to go round the machine used for raising the water for the purposes of the brewery. It was then beaten most savagely; when, finding that useless, the human brutes concerned procured a quantity of straw, and one of them coolly struck a lucifer-match and lighted a fire under the belly of the animal, and burnt it shockingly. A rope was afterwards tied round the neck of the cob, and, being fastened to another horse, it was drawn out of the place in which it had been so shamefully tortured, and turned out into a field, where it remained without any protection from the weather or attention to its wounds, until Sunday, the 26th, when it was returned to Mr. Deane in a most pitiable condition from the treatment it had received. A great number of persons have seen the animal, and expressed their indignation and disgust at the conduct of the persons concerned, who, fortunately, will not escape exposure and punishment. The case has been investigated by Mr. Thomas, the secretary of the Royal Society for the Prevention of Cruelty to Animals, who, on Saturday last, attended before the magistrates at Dartford, and obtained summonses against Benjamin Rowlands, Frede-

rick Townend, and Charles Gamble, who will appear at Dartford on Saturday next to answer the charge."—*The Times.*

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Ueber die Ganzliche Ausrottung der Rinderpest. Von Peter Jessen, Director der Dorpativ Veterinairanastalt. Dorpat, 1852. Pamphlet, 8vo, pp. 36.

The Total Extermination of the Cattle Pest. (*Typhus.*) By Peter Jessen, Director of the Veterinary School at Dorpat.

This little pamphlet has for its object the extermination of that dreadful calamity of the agriculturist in a part of Russia known by the name of Steppes, through the means of inoculation for the disease, thereby substituting a mild disease for a malignant one. The author informs us, that, from the beginning of the seventeenth century to the present time, according to some calculations, between two and three millions, according to others, between four and five millions, of cattle have perished in Europe, of not less value than from 60 to 90 millions of dollars (Prussian); this though, he thinks, must be much underrated, since, in Denmark alone, from the year 1745 to 1852, 2,085,162 head of cattle have perished: added to which, who can calculate what loss Russia sustained in places where this plague is of such frequent occurrence in that country, that the inhabitants have ceased to regard it with awe; indeed, are in a manner familiarised with it.

The first person who recommended inoculation for typhus, as a preventive, was Salchow, professor of chemistry and physic, which was in the year 1776. The next was Dr. G. R. Frunk, who asserted that he would undertake by that means to rid the Prussian frontier of the disease in less than three years. His work, on the Typhus of Cattle, appeared in 1802, at Berlin; but, though it received the high approbation of

the then authorities, had no encouragement given to the proposition contained in it. E. Viborg was the third man who, in 1809, proposed in his essay on Typhus, to the Academy of Science at Warsaw, inoculation as a means to prevent the recurrence of the malady. It was in Steppes, however, which has always been considered as the nursery of the disease, that he desired to have had his proposition put into practice; not so much as a means of diminishing its mortality in those localities, as of preventing its spreading, and thus completely eradicating it.

The plan the author proposes is, to erect in Steppes, a large and suitable building, with requisite apartments for a director, who should be a veterinary surgeon, and for the staff necessary to carry out the project. Then to purchase a herd of cattle, say 100 head, free from disease and contagion, on which are to be made the first experiments of inoculation, with diseased matter procured out of the district in which the pest is then prevailing; and this to be continued until all the cattle have been inoculated.

Thus much constitutes the essence of the pamphlet before us: what remains is detail of little or no interest to our readers.

Millheilungen aus dem Innern Von Russland Zunachst fur Pferdeliebhaber. Von Freiderich Waterberger, Professor und Collegioniath.—*Dorpat,* 1853.

Notes of a Journey into the Interior of Russia, dedicated to Amateurs of Horses. By Frederick Unterberger, Professor at the Veterinary School.—*Dorpat,* 1853.

It appears, by this pamphlet, that there are two distinct breeds of horses in Russia, trotters and gallopers. The first are for the shafts of the sledges, or the *droski;* the second for outriders. All horses going abreast in Russia, the latter are the most esteemed, and are therefore denominated *noble:* they consist of the best Arab and English blood.

The following extracts will show the richness of the Russian Empire in horses:

"This immense number of horses have their origin in the immeasurable extent and fertility of the meadows of the Steppes. No country in the world, either Austria in Europe, or Paraguay in America, can compete with her. Russia alone is capable of remounting a numerous cavalry within the shortest time, and of keeping it effective during the most protracted war. In the last general war, it had 65 effective regiments of cavalry, besides a numerous artillery, and 170,000 mounted Cossacks, Baschirs, and Calmucks in the field; and in 1812-13 the Emperor Alexander ordered four reserve corps to be formed, for which in a short space of time 63,012 horses were bought. Besides these, a vast number were sold to the Austrian and Prussian cavalry out of the Government of Wolhynia. But, notwithstanding this extraordinary draught of horses, the statistics of 1814, taken by Professor Heim, in 28 Governments, show that there were 1339 Government and private studs, containing 345,109 horses of different ages. The Grand Duke, John the Third, laid the foundation of the present system of improving the breed of horses in Russia; but the present Emperor, by an ukase of the 11th of March, 1843, directed that stallions at proper stations should be distributed throughout the Empire, and that the heretofore Military studs should be changed into Imperial. The immediate consequence of this was, that, in 1844, 470 stallions were distributed, and 12,000 mares were covered. In 1845, the former number had increased to 900; and in 1848, the number was 1337, and the number of mares, since 1844, amounted to 165,000. By this means Russia has effected in a few years what in other countries would have occupied centuries."

And now a word concerning the races—Haimans, a Government stallion, had four descendants, which won ten prizes, and netted their respective owners 6780 silver rubles. The stock of General Chassé numbered 14, which, at the different races, won 41 prizes, netting for their respective owners, 31,152 silver rubles. The descendants of Birmingham, 31 in number, won 79 prizes, amounting to no less a sum than 38,428 silver rubles. These four stallions are thorough-bred English horses, and were bought by the Russian Government, in England, at different times, for 31,436 silver rubles.

The performances on the turf of the half-breds are no less remarkable. One horse, the descendant of Karatakos, won prizes to the amount of 2283 silver rubles. The trotting

races are no less interesting; but circumstances did not allow the author to witness any.

Moskow seems to be the greatest mart for horses. At the establishment where the Government stallions are kept, there is a sort of repository for horses, where they are sold by auction or private contract, similar to Tattersall's, in London; with this exception, that all horses sent there for sale are examined by a veterinary surgeon previous to their admittance, and, if unsound, are rejected altogether. They charge for the keep, &c. $4\frac{1}{2}$ per cent. on the produce of the sale.

There is no town in Russia where there are so many fine horses; not even St. Petersburgh excepted. The merchants in Moskow are the greatest amateurs of horses. They spare no expense to procure the very best, and it is a sight that would gratify anybody, to go in the neighbourhood of the exchange, about 12 o'clock, to see their carriages; though some of them are no more than horse dealers. The trotters are held here in the highest esteem; the prices of them are very high, since you cannot purchase one of them under 1000 silver rubles. Ten colts and fillies were sold at 2 years old for 6000 silver rubles.

We cannot forbear giving the following extract, one that does little credit to the orthodox Greek religion of the Russian Empire. It is well known that Russia suffers enormous losses in cattle from that dreadful calamity, the Typhus Contagiosus,—the cattle pest.

"In the Arolatowsehan and Alatürsehan circuits, the country people believe that the Typhus is a real being, called *Morr*, which, about midnight, visits the stables or sheds. It appears either in the shape of a white cow, or that of a half calf and half goat; while, at other times, it takes the shape of one of the female inhabitants of the place where it works its pernicious influence. This evil spirit it behoves them to banish; and to effect this, the whole of the inhabitants meet after mass, when, having extinguished all the fire in the village, they then cut a trench, or, if not interfered with by the authorities, make a tunnel, just wide enough for two persons to pass each other, at the end of which a quantity of brushwood is collected, to which they set fire by rubbing two pieces of wood together until combustion takes place. That effected,

the whole of the cattle are driven through the fire, followed by the inhabitants. If the disease be not the Typhus, they become strengthened in their superstitious belief; but, if it be the Typhus, it is sure to increase in intensity by this absurd practice, and consequent congregation of cattle.

"Another practice is, that of burying the first victim of the disease under the sill of the stable door, in order to preserve the rest of the cattle from contamination.

"The disease in these districts generally breaks out in such villages as lie proximate to the high roads, whereon either herds of cattle travel, or hides from the infected districts are being conveyed. It spreads from village to village, in the direction of the above-named roads. The spring and autumn are more fatal seasons than summer or winter; though this by no means depends on the seasons, but solely on this:— In summer, the land is covered with the crops, and in winter with thick snow; both of which conditions prevent the travelling cattle from wandering far from the high roads, which in spring and autumn they do with impunity. When the disease first breaks out, the mortality amounts to from 90 to 95 per cent. The villages inhabited by the Tartars generally are an exception to this, since they seldom suffer much from the disease; but then, the Tartar is prudent, in doing all he can to prevent the disease from invading his homestead. If he has to go to an infected district, he is careful not to bring anything home with him, not even a handful of straw to sit upon: by this he greatly aids the Government in all its sanitary measures having a tendency to prevent the spreading of the disease, while the superstitious Russian acts but very unwillingly."

In 1849, 198 head of cattle became diseased in one farm by the high road whereon some travelling cattle had passed: 88 of them died. This was found by the district veterinary authorities to be the Typhus. The rest were slaughtered, and by this means the plague put a stop to.

E.

A Manual of Pharmacy for the Student of Veterinary Medicine, &c. By W. J. T. Morton, &c.

In our printer's hands, at this moment, so far advanced as to be all but ready to take its flight from the press, is a New Edition of this work; of which, we understand, every article has been, by its author, very carefully revised and brought up to the present state of science; while many new ones have been added, thereby augmenting the size of the volume to no inconsiderable extent. Our opinion being already known and expressed of former editions, we cannot but await with pleasure the forthcoming one, making the fifth impression of a work which has experienced an unusually large and rapid sale, though by no means one incommensurate with its sterling worth and general utility.

Foreign Department.

OBSERVATIONS ON PREMEDITATED POISONING OF DOMESTIC ANIMALS.

By M. Eugene Ayrault, V.S. at Niort (Aux Sivres).

Although the facts I am about to disclose are not of that importance which they would be reckoned to be in human medicine, still do they possess historic interest sufficient to give them a place in the annals of science. If such examples of crime as I am going to relate, be not so frequent among men towards animals as among men towards one another, yet, perhaps, are they not so rare as one might imagine, from the small number of such as have come to light.

In any case, the observations I am about to make known, may serve to throw light upon the nature of such facts, and put Veterinarians on their guard in relation to them, at a time when they might remain involved in obscurity, should they not be led into the probability of diagnostic.

FIRST OBSERVATION.

In January, 1848, a farmer, by the name of Lhoumault, at the stud of Martigny, near Niort, came to ask me to come

and look at one of his (stallion) asses, which had showed illness that very morning. I found the animal depressed, retiring to the further end of his stable into the darkest corner of it; sometimes he lay down. The conjunctivæ were reddened; the pulse small and very quick; the pulsations of the heart strong; the respiration embarrassed—if one might judge from the dilated nostrils and the acceleration of the motions of the flanks. The treatment pursued was antiphlogistic. The animal was bled twice, had sinapisms applied to his chest, and two setons inserted into his breast. The animal died after suffering sixty hours.

Autopsy.—Stomach uniformly red, and covered with numerous black *ecchymoses,* standing prominently out from the surface of the mucous membrane; the mesenteric glands had turned black, were gorged with blood, and double their natural volume. The heart presented large ecchymoses in the interior of its ventricles. The lungs were gorged with black blood, and appeared in some few places as though hepatized. My opinion was, that the case was one of carbuncular (*charbonneuse*) fever.

On the 7th of February following, another ass fell sick. I was called again. It presented the same symptoms as the foregoing. Believing in the presence of a carbuncular affection, I modified my treatment; which I now rendered tonic, with light venesections (for this is the practice ordinarily pursued in such affections). Death followed in forty-eight hours. Autopsy was made, and the same appearances found.

At ten, on the 25th of June, the third ass fell ill; presenting the same symptoms as the first two, and progressed the same in spite of all I did. During the illness of this last animal, I observed a reddish-brownness of the buccal membrane, remarkably about the gums, between the incisor teeth. The conjunctivæ had a reddish tinge; and the pulsations of the heart were so loud that they could be heard at a distance. I desired to have the assistance of another veterinarian in the dissection of this animal.

The ecchymoses detached in relief from the uniformly reddened bottom of the stomach, varied in size from a two-franc to that of a three-franc piece. The large intestine (colon ?) was reddened and thickened, and showed in places large ecchymoses, involving the entire substance of the mucous coat, down to the muscular tunic. The liver and spleen presented nothing remarkable. It was evident enough these lesions were the cause of death; but what could have produced them? Upon this question we found ourselves posed;

neither could we conjecture what, save something should turn up, could preserve the unfortunate owner (Lhoumault) from ruin.

The 1st of December, a five-year-old ass, worth 2800 francs, fell suddenly ill of the same disease of which the other three had died. Lhoumault, sad and in despair, came to call me:—"M. Ayrault, the ass that is now sick has the same complaint as the others had; he too will die poisoned, for we have found upon the window corn mingled with white powder." I attached but little importance to this story of *poisoning*, knowing how prone farmers are, whenever an epizootic breaks out among their cattle, to give it this interpretation. I therefore tried to dissuade Lhoumault, and set off immediately for Martigny. My first cares were directed to the ass, which, dark and gloomy, had become lightly tympanitic, manifesting pain on pressure upon the belly; with hard pulse; conjunctivæ and heart pulsations normal. I diagnosticated a gastro-enteritic inflammation, and ordered to begin with emollient clysters. Afterwards I enquired whereabouts the oats had been found. I was shown the window-ledge from which they had been carefully swept, and had been thrown along with the litter to the dunghill. This window opened to the south, and on that day the sun was darting its rays upon it. Thanks to this circumstance, I distinguished amongst the white powder, some dead lime with which the stable had been washed, some pearl white grains, which were brilliant and reflective of the sun's rays. I called Martigny, and in his presence gathered up all the powder I could from between the roughly-joined stones supporting the window,

M. de Martigny and myself set off for Niort, to M. Sauzé's pharmacien; and there, having thrown some of the grains upon charcoal at a white heat, we learnt for a certainty that they were plainly arsenious acid. I immediately sent off to M. Lhoumault, 60 grammes of protoxyde of iron to be administered to the ass, and at the same time prescribed numerous emollient drinks made of decoction of linseed.

I accompanied M. de Martigny to the *juge d'instruction*, at whose house we left the paper containing the substance found in the window, and he at the same time received the complaint from M. Martigny. The next day the ass was much the same. The mucilaginous treatment was continued, until, at the end of sixteen days, he commenced showing gaiety again, though he was not completely recovered before the thirtieth day.

Inquiry proved to no purpose. The miscreant who did the deed could not be discovered, notwithstanding Lhoumault

went to the *divin* and all the sorcerers in repute. This induced M. Ayrault to make an experiment to convince the people that he was right in his opinion, lest some of them might deny the fact of the ass being poisoned by arsenic. He got a horse from the knacker's, and gave him 15 grammes of arsenious acid, mixed with two measures of oats, which the horse ate. He died fifty-three hours afterwards, after having suffered the same as the asses had done. Autopsy likewise disclosed the same as had been seen before. And what added to the interest of the last case was, that a dog in the knacker's yard died four hours after having eaten of the flesh of this horse.

By the study of the symptoms of these different empoisonments, we learn in some measure the progress of the poison in the animal economy. Thus, at the beginning, we observe the topical symptoms provoked by the entrance of the poison into the stomach. And this is the only moment when there is any chance of cure, by administering the oxydes of iron or manganese, which neutralise by combination with it the effects of the arsenious acid. Later than this; when the comatose condition, pulsations of the heart, embarrassed respiration, and particular colorisation of the mucous membranes, come to indicate absorption of the poison, and that it has entered the circulation, then it is no longer possible to neutralise the arsenious acid, the disorder it has now produced being incurable. Among the cases I have been relating, it is quite certain that, had I had any reason to suspect arsenical interposition, the ass which fell in sixty hours might have been saved the same as the last.

SECOND OBSERVATION.

On the 18th March, 1851, I was summoned by Louis Thibandeau, farmer, at Provins, near Niort, to bleed a fine young colt that had fallen ill that afternoon. It was then six o'clock in the evening. I went to the farm and examined the colt, which I found ready to die of an affection which I had not then been able to make out, if there had not been found in his manger pellets, made of bran, composing no part of its ordinary food. This information brought to my mind the asses of Martigny, and in this new circumstance I suspected poisoning, as in the preceding case. The peroxyde of iron was prescribed to no purpose. The next morning the owner came to me, to say, the colt was dead; and that his brother, François Thibandeau, his neighbour, had found in the manger of his mules a packet, containing a white powder, but that the mules had neither touched the paper nor the powder.

I accompanied them to M. *le Juge d'Instruction*, when F. Thibandeau deposited the packet found in his stable, and L. Thibandeau his complaint. The judge, seeing that there were three years of interval between this new affair and the last, ordered that the carcase of the colt should be brought to Niort, and commissioned MM. Meschines, doctor, and Barrault, pharmacian, and myself, to make—1st, An autopsy of the colt; 2dly, A chemical analysis of the contents of the stomach; 3rdly, The analysis of the substance in the packets deposited by F. Thibandeau; 4thly, A report of these operations, in which is to be notified their opinion on the kind of death of which the horse of Thibandeau died; which in substance was as follows:—That the cellular tissue, underneath the skin, was marked with several spots of ecchymosis; that the spleen was similarly speckled, but not the liver. On opening the stomach there was found a pretty large quantity of bran and oats (although the owner, who was present, declared he gave neither, for more than two months), while its right sac was pointed, reddened, and ecchymosed to a great part of its extent, and that in many places existed deep ulcerations, kinds of cauterizations, involving the entire thickness of the mucous membrane. The mucous membrane, blackened and double its normal thickness, was covered with ulcerations of every shape and dimension, and which had penetrated the membrane. The small intestine, as it issued from the pylorus, was stained with reddened ecchymosis, though at a distance from the pylorus were only numerous points to be seen. The mesentery had ecchymoses of different sizes; the right kidney was sensibly softened; the lungs gorged with black blood; the right ventricle of the heart had its membrane uniformly blackened, &c. This was succeeded by an analysis of the contents of the stomach, &c., and the conclusions came to from this and the post-mortem examination were these:—

1. That the horse of Louis Thibandeau was poisoned by arsenious acid.

2. That the poison was given mixed with bran and corn.

3. That the arsenious acid was broken, but not reduced to a pulverulent state.

4. That the poisoning is recent, since the substances which served as vehicles had not quitted the stomach, and those local lesions were not to be found beyond this viscus.

5. That the packet found in the stable of François Thibandeau contains arsenious acid.

6. That the matters in Louis Thibandeau's stable contained none.

The perpetrators, however, of the above villainous deed have not to this day been discovered.—*Réc. de Méd. Vét. Juillet*, 1853.

A CASE OF STRANGULATED HERNIA,

IN WHICH, DURING REDUCTION, THE COLON BECAME PERFORATED—RECOVERY.

By M. H. Verrier, V.S. at Provins.

(*Seine et Marne.*)

The case I am going to relate furnishes a remarkable example of laceration of the colon, in the act of reduction of hernia, without its being followed by such complexities as might under the circumstances be anticipated.

On the 27th of September, 1850, M. Setung, farmer at Filles-Dieu, a hamlet of Provins, came to ask me to come to his house to see a horse that had been three hours seized with the "gripes." He informed me that the horse did not appear so ill when he was walking about as when he was at rest, for then he would sink down upon the ground, and for preference place himself upon his back, as though that position afforded him relief. From this account it struck me the animal must have an inguinal hernia.

In this conjecture I was confirmed by an immediate examination, in which I found in the region of the testicle a firm tumour on the left side, whose nature admitted of no doubt. The horse was at the time in a state of gloominess and depression, having his eyes closed in part, and mournful, with the conjunctiva much injected: pulse double and quick, but not hard; respiration tremulous, irregular, and a little accelerated; unable to stand long, and preferring when down to lie upon his back.

The tumour on the left side of the scrotum was about the magnitude of a double fist, deeply lodged in the groin, very painful while being explored with the fingers, and presenting along its middle a groove, distinct though shallow, separating the tumour (superficially) into two lobes; an inferior one, formed by the testicle; the other, superior, consisting of the prominence of the imprisoned pus. (This bilobular aspect is to me a very significant characteristic of hernial tumour.) I would have, by exploration *per rectum*, had further con-

firmation of my diagnostic, but there was evidently no need of it.

I explained to its master the nature of the disease his horse laboured under, its grave importance, and the fearful consequences of it. At the same time, placed in the most favorable light the prospect of an operation, so long as the hernia was recent and free from many complications, and I engaged to operate immediately. He consented at once.

I therefore lost no time in making the necessary preparations. Having first largely bled the horse, I had him cast and placed in position upon his back, with his fore-legs united, and suspended from a beam running above them, the posterior parts being raised by trusses of straw placed underneath them. These details are not needless, since the success of the operation for hernia depends, in a great measure, on the position the patient is placed in, upon the restriction opposed to his struggles, especially when violent and inordinate.

All being ready, I proceeded to my work. I introduced my arm well up the rectum, and proceeded by a methodical taxis to reduce the hernia. The knuckle of intestine, incarcerated, was already tumified, and opposed, great resistance to my efforts. Nevertheless, I continued the double manœuvre of taxis through the rectum, as well as the external surface of the hernial sac, when, all on a sudden, at a moment the animal unexpectedly made a violent struggle, on which I found the internal oval of the gut my hand was in give way under the pressure of my fingers, and laceration following, leaving my hand to roam about among the intestines.

This appeared to me an exceeding serious affair. I thought that, although I should succeed in reducing the hernia, the animal would no less sink under the mischief done to his colon. However, not abandoning all in despair, I continued my work of taxis, and obtained at last by repeated efforts the disengagement of the knuckle of intestine out of the inguinal canal.

Notwithstanding this result was arrived at, still, apprehensive of the consequence which might supervene to diminish the hopes of the owner, now founded upon the *success* of my operation, I felt I ought to apprise him of accidents which might befal the patient yet, such as the possibility of gangrene from pressure continued upon the gut.

I thus managed for myself a back door to creep out of in case anything should happen to justify my fears, based upon complications which had supervened on the operation, and which were known to me alone.

The taxis occupied me three hours.

The animal, released from his shackles, was found covered with a frothy sweat. For half an hour he lay quiet upon his side. As soon as he arose, I had his body well wisped all over, and, but that the pulse was inclined to be threaddy, another blood-letting appeared to me indicated. A suspensory bandage was applied to the testicles, loose diet, mashes, ointments, &c.; thick clothing; hot bags upon the loins; litter elevated underneath the hind legs. Clysters being essentially counter-indicated in such a case, I forbad their exhibition altogether. Such precautions being put into execution I quitted my patient without much hope of him. The next morning I was agreeably surprised to find him in a state less alarming than might have been anticipated. The pulse, it is true, was quick, but it had not the hardness characteristic of inflammation of serous membranes. The eyes were almost of their natural colour. The flank was a little agitated, but the belly not painful on pressure.

The evening after my departure, he manifested symptoms of great restlessness, which gave rise to a belief that death was approaching. The animal had become extremely dispirited, trembling all over his body, staggering upon his limbs, and being very cold. General fumigations* were had recourse to, which were productive sensibly of benefit. Dung-balls had been passed with efforts, in small numbers, and coated with glairy mucus.

My intention originally was to have completed the operation of reduction by that of castration on the hernial side. I had omitted it for a day on account of the failure in the patient's powers; but circumstances required further postponement of it, in spite of the chance there was of hernia returning, for the scrotal parietes had become hard and painful, and extremely tense, and that, performed on parts in such a condition, the operation would present many difficulties, besides being attended with considerable danger. Prescription the same as last evening.

In the evening the animal is low, its flank is tensely tucked up, with hard pulse; dung passed with a great deal of pain, and completely coated. I abstained from giving clysters, notwithstanding the surprise manifested by the owner, and prescribed general fumigations* and diluents for drink.

On the 29th the scrotum acquired an extraordinary volume, and made me suspect the formation of abscess.

Oct. 1st.—He lay down for the first time, and continued lying for four hours.

* We much wish some French or other reader would explain to us what is meant by "*fumigations générales.*"—Ed. *Vet.*

On the 5th, the date of my next visit, I found my opinion confirmed, of an abscess in the scrotum, which I now opened, and gave vent therefrom to a considerable quantity of pus. Depurative lotions. The cavity of the abscess fills up rapidly, but the tumour of the scrotum continues notwithstanding. This caused me to decide on castrating my patient on the side on which the hernia had formed.

On the 27th, not without difficulty, on account of the numerous adhesions which had formed, and the infiltrated hardened condition of its envelopes, I performed castration. From this, I have come to the conclusion that, for the purpose of preventing hernia, castration should be practised the moment after the reduction.

In a short time afterwards the animal was able to resume his work, being on the fair road of recovery from the castration, and of perfect re-establishment after the hernia, and the intestinal injuries with which it was complicated. *Réc. de Med. Vét. d'Aout*, 1853.

PROCREATION OF THE SEXES IN THE OX SPECIES, ACCORDING TO WILL.

After having made many experiments M. Chevalier Peers has had his attention arrested by the work of a Dutch author, put into his hands by one of his friends of Zealand. The means recommended, of which M. Peers has obtained very satisfactory results, during the four years he has put them into practice, consist in the presentation of the cow to the bull *before* or *after* milking. Whereas put to the male before milking she brings forth a cow-calf. Whereas, if she be milked first and bulled afterwards, she brings a male-calf. *Moniteur Agricole.*

Home Department.

DINNER TO MR. EDWARD STANLEY, VETERINARY SURGEON, BANBURY.

(*From the Banbury Guardian, October 26th*, 1853.)

[This was intended to have been inserted last month.]

Last Friday evening, a numerous and highly respectable dinner party, composed of gentlemen and tradesmen in Ban-

bury, and many of the farmers in the neighbourhood, met at the Red Lion Hotel, in this town, to do honour to Mr. Edward Stanley, the veterinary surgeon, who has lived twenty years in the borough. A large committee was formed for the purpose of carrying out the object, to which Mr. J. Barford was the secretary. An address to Mr. Stanley (a copy of which will be found below) was prepared, and upwards of 200 signatures were procured by the committee. The mayor (T. Draper, Esq.) occupied the chair, the guest of the evening being seated on the mayor's right hand; the vice-chairmen were Mr. W. Potts and Mr. W. Cowper (Farnborough.) As nearly as we can give it, the following is a complete list of the company:—Messrs. W. Gulliver, R. Field, J. Gardner (Adderbury), J. M. Greaves, W. Fairbrother, J. Barford, W. Edmunds, W. Brain, W. Cother, J. Drinkwater, J. Rose (Warwick), W. Stanley (Leamington), W. Ledbrooke, J. Ledbrooke, J. Dandby, T. Taylor, W. Caless, E. Wilson, W. Hadland, B. Field, S. Lozell, — Simmonds, J. Gardner, J. Kirby, J. N. Harman, G. Bannard, C. Cave, S. Chesterman, J. Fortescue, J. P. Barford, W. French, H. Cowper, C. N. Page, A. Bull, W. Floyd, T. Pain, C. W. Fowler, H. Charlton, E. Townsend, W. Cooke, W. Bygrave, J. King, R. Page, W. Page, F. Marshall, and P. Hardwick. The composition of the dinner was in every respect in keeping with the reputation of the house, and desert and wines corresponding.

On the removal of the cloth, the toast-list was proceeded with, the Chairman giving the loyal toasts, followed by the "Army and Navy," to which Mr. Lovell and Mr. R. Field responded.

The *Chairman*, before proceeding to the toast of the evening, read letters from the following gentlemen, viz., Col. Dawkins, Mr. Stratton, Mr. J. W. Wing, and Mr. Drake, all of whom spoke in high terms of Mr. Stanley, and regretted his removal; together with letters from gentlemen who are connected with the Royal Veterinary College, viz., Mr. Simmonds, Professor Spooner, and Professor Morton, who wrote in language complimentary of Mr. Stanley, and of the propriety of a testimonial to that gentleman. The Chairman then proceeded with the toast. He said they had now arrived at the toast of the evening, but before he proceeded to give that toast, he asked to be allowed to say one word in explanation of his being the occupant of the chair. Whilst with his family on that isle of isles—the Isle of Wight—a communication reached him from Mr. Barford, as the organ of the testimonial committee in Mr. Stanley's favour, informing him of the present meeting, and that there were above

200 signatures to the testimonial, including many of the gentry of the neighbourhood; and stating further that the object of the parties would be promoted if he (the Mayor) would take the chair on the present occasion, and that by so doing he would oblige the committee and the friends of Mr. Stanley. (Applause.) He knew very well how very unfit he was to occupy that chair—("No, no"); but it was impossible he could receive such a communication without being aware that it conveyed necessarily, though tacitly, a respect for the office which he had the honour to fill. (Applause.) There were many duties which they had to perform, and which they could perform with pleasure, although they arose solely upon the representation of others; but the pleasure of performance was materially enhanced when their own knowledge enabled them to acquiesce in the propriety and truth of the representations made. (Applause.) And it was because he could from long experience—for twenty years and more—of Mr. Stanley in this town alone, concur in those representations, that he had a ten-fold pleasure in taking the chair that evening. (Loud applause.) And now gentleman (said the Mayor,) and Mr. Stanley in particular, let me say to you with what pleasure I have read the letters now before us, and with what further pleasure too have I read that which, with the consent of this meeting, I will read again, viz., the testimonial of esteem which is so numerously signed:—

"A testimonial of esteem, presented to Mr. Edward Stanley, veterinary surgeon, on his leaving the town of Banbury. —We, the undersigned, many of whom have benefited by your professional skill, desire to express our regret that you are leaving the town and neighbourhood of Banbury, and we beg that you will accept this short address as a tribute of respect, and testimony of the high sense we entertain, not only of your professional ability, and great attention as a practitioner, for a period of twenty years, but for the uniform uprightness of character which has always accompanied your transactions in business. You will, at the same time, allow us to express our sincere regard for your future welfare and prosperity, and a hope that your removal to Birmingham may only increase the reputation you have so well earned in this town and neighbourhood. We trust, Sir, that you will value this declaration of personal respect and approval of your professional practice, by knowing, from the signatures attached to it, that we are actuated only by a desire to extend that reputaion of character which you have so justly merited." (Loud cheers.)

This memorial is signed by Lord Villiers, Colonel North,

Mr. W. Willes, Mr. C. Willes, Mr. A. Cartwright, and many of his fellow-townsmen, and many of those agriculturists with whom I am so happy to associate this evening. Mr. Stanley, the professional skill which you have so long exhibited, the attention which you have so invariably paid to every case which has come under your notice, and the civility which you have uniformly shown to every one who employed you—(Cheers)—those fair and honorable—those proper charges, with which you have contented yourself for every service you have performed—(Renewed cheers)—these, I say, Sir, combine to raise a claim on our part of approbation and good-will; and it is to testify to you, Sir, our approbation and good-will that we are now met in this place. (Cheers.) We are sorry to part with you; but we know, and confidently hope, and have no doubt, that it is to further those individual and family interests which are so important to you. We have pleasure in your removal, from the belief that in proportion as you have a wider field for the professional services which you will be enabled to render when called upon, so will be your increase of prosperity. (Cheers.) I feel that upon an occasion like the present it is unnecessary for me to say that during this evening we entirely exclude politics—(Hear, hear); any hint on that subject is totally unnecessary, as I feel sure it will be acted upon throughout the evening. Nevertheless, I may be permitted to mention, as a collateral fact, that that highly important and respectable body of men, the Conservatives of Banbury, did upon a recent occasion select you to represent your townsmen in the Town Council of this borough. (Cheers.) Adhering to the rule I have laid down, I still feel I am entitled to mention that fact as showing the esteem and regard in which you are held by that highly respectable body of men. (Reiterated cheers.) Esteem there must be, and it is entitled to great weight, as it shows itself in a matter out of your profession. It also shows the high estimation in which you were held as a neighbour. (Cheers.) I do most sincerely hope that in the wider field to which you are going, that success will attend you to which your merits justly entitle you, and may your life be long and your happiness great. (Long-continued cheering.)

Mr. Stanley rose to respond, amid loud cheering. He said, Mr. Mayor and gentlemen,—I am sure that every friend will feel with me that the kind reception I have met with fills my heart too full adequately to return thanks for your great kindness. I have lived amongst you twenty years, have received a great deal of respect, and have been treated with great confidence by you, yet I did not think you would have

deemed me worthy of this great demonstration, for it is more than I have merited. (No, no.) I know, gentlemen, that your feelings are those of well-wishers towards me; and I certainly accept this testimonial with a great deal of pleasure, and I am proud of it. There are not many here but would feel proud of such a testimonial; and I consider that it is the highest honour and the greatest possible compliment that you could have paid to me. (Cheers). Perhaps some of my friends will be ready to ask, after receiving so much support, what could have induced you to leave? I can only say, in reply, that I have not left you without great consideration, and after taking the advice of my best friends. (Hear.) I have nothing to complain of you, gentlemen. I have had much of your patronage in the town, and have gone extensively out of the town; and I feel that the testimonial which you have now given of my conduct is of great value to me, and that it is something which I can hand down to my children. (Cheers.) I am led to believe, gentlemen, that in Birmingham I shall have a larger field, and meet with a more lucrative business. (Hear, hear.) I should be sorry to say one word that might be misconstrued; but when I say a more lucrative business, I mean that I have a large family to provide for, and I am hoping to be the better able to provide for them there than here. The step I have taken is a bold one, but whether it is wise time alone can prove. There are schools in Birmingham that are highly advantageous for education, and that is another reason which has induced me to take this step. These considerations, and not personal ambition, have influenced me; and let me say that your kindness to me this evening will increase the tie which I feel ought ever to exist between us; and I hope that occasionally I shall have the pleasure of coming amongst you. I need not say to you that I shall always feel an interest in what is going on here, and shall look at the *Banbury Guardian* with pleasure to observe your movements. (Hear, hear.) Gentlemen, speech-making is a little out of my line, but before I conclude, allow me to say that I have one happiness to cheer me—that after living in Banbury twenty years, I believe I am in good fellowship with every man. (Cheers.) For the great honour and the high compliment which you have paid me accept my best thanks. (Reiterated cheers.)

Mr. Cother said—He was called upon to propose the next toast, and he wished them to do that honour to it which it deserved. If they looked upon a long railway train, full of passengers, they saw that it would be of very little use either to the passengers or the company without a steam engine;

and so it was with a company at a dinner table like that around which they sat: they required a good chairman to conduct it. Such a chairman they had, and it was his health which he had to propose. (Cheers.) In presenting this toast, he begged to be allowed to make a few remarks on this—to each of them—joyous occasion. (Hear.) Their friend Stanley would no doubt feel it was an occasion that was exceedingly gratifying, and exceedingly well had he acquitted himself in responding to the chairman's address—he had responded in those manly terms for which he was proverbial since he (Mr. Cother) had known him. He must say it was a happy occasion, inasmuch as it enabled them to bear their testimony to Mr. Stanley's exceedingly good conduct and professional skill. (Cheers.) Referring again to the subject of the toast he said it was important to the reading public that the newspaper editor should not go to sleep for a week, because if he did there would be a great want which could not be otherwise supplied; and so with the brewer producing beer, and the miller in furnishing bread: there must be a head; and in selecting a head for this assembly, he trusted they would be of opinion that the committee had made a good and not a bad choice. (Cheers.) To the well-known excellence of the gentleman who filled the chair, and the honour with which he discharged the various duties of Mayor of Banbury, they would add the fact of his having so well acquitted himself on this occasion; and on these considerations they would agree with him that the committee had made a good selection in the choice of a chairman. (Cheers.) One more word he should like to say. He thought this occasion afforded them an example of the consequences of good conduct; and he trusted that Mr. Stanley's successor would view this as an example never to be forgotten by him, so that if ever he should be called upon to remove from amid his neighbours, he might do so with the same good will as was now accorded to Mr. Stanley. (Cheers.) He now gave them "The Chairman."—(Three times three.)

The *Chairman* thanked them for the compliment they had paid him, and for the manner in which they had paid it. It was most gratifying to his feelings, and far beyond his merits, for it was only his duty to come forward in behalf of a neighbour like Mr. Stanley. (Cheers.) Although it was his province to preside at meetings of a different nature to that, yet he could assure them that he felt much pleasure in seeing assembled gentlemen living in the neighbourhood as well as those of the town; and he should heartily rejoice if they had more frequent opportunities of promoting harmony and good neighbourhood amongst each other. (Cheers.)

Mr Harman said the toast which he had to submit included almost every gentleman in the neighbourhood not then present; and he was sure there was not one amongst them who knew Mr. Stanley would lose that opportunity of testifying their regard for, and high esteem of, his public and private character, and their great regret at his leaving this neighbourhood. "The absent gentlemen who signed the testimonial." (Cheers.)

Mr. W. Cowper, in brief approving terms, gave "Mr. Rose, and the other members of Mr. Stanley's family now present." (Three times three.)

Mr. Rose (Mr. Stanley's father-in-law), and *Mr. W. Stanley* (brother to Mr. Stanley), severally acknowledged the compliment.

Mr. Potts said—He was called upon to propose the next toast, and he did so with great satisfaction, alloyed only by one little regret—that he was not practically acquainted with agriculture, and could not therefore speak of it with that knowledge either as to its theory or practice, which in strictness ought to be possessed by one who undertook to say anything on such a subject. However, when he remembered that they lived in one of the richest and best cultivated districts of England; when he saw before him a large body of respectable, talented, and spirited agriculturists; and when he saw there also a great many of his fellow townsmen whose prosperity in life mainly depended upon agriculture, he believed he might very properly call upon them to drink success to agriculture. (Cheers.) People were very much accustomed to regard things according to their antiquity and their usefulness. There was no pursuit older or more useful than agriculture; and upon it they literally depended for their daily bread. It also greatly promoted hospitality, for nowhere would a man find a warmer welcome than he would find at the fireside of an English farmer. It must be a source of gratification to every one that the prospects of agriculture were so much better now than they were a short time ago; and he was sure, that those who were present, and every man out of that room of whom he had any knowledge, wished, not only that the material sun might cast its rays upon their fields and bring to maturity the fruits of the earth; but that the metaphorical "sun of posperity" might also shine upon them without a cloud crossing its beams. (Cheers.) With much satisfaction he gave them "Prosperity to agriculture." —(Loud cheers).

Mr. W. Hadland responded. He was at a loss to know why he had been selected to respond to this toast, which had

been proposed in such flattering terms, and so kindly received by the trading portion of the assembly. There were gentlemen present whose names stood much higher than his did. His friend Mr. Cother would have been much more able (No, no), and Mr. Bull was far more eminent than he (Mr. Hadland) was. Their prospects were certainly looking more favourable, and he hoped they would not have prices too high. (Hear, hear.) He was sure the generality of his brother farmers had no wish to see produce sold at an exorbitant rate. Their motto was, "Live, and let live."—(Loud cheers.)

Mr. W. Ledbrooke (Burton Dasset), in a short speech, proposed, "Prosperity to the town and trade of Banbury." (Three times three.)

Mr. Fowler, in responding, said the town and trade of Banbury was much indebted to such gentlemen as Mr. William Ledbrooke, who had with so much good feeling proposed the toast. Without such men as Mr. Ledbrooke, the tradesmen of Banbury could not live, and he hoped that in future there would be manifested more of a oneness of interest between the town and country.—(Cheers.)

Mr. Lovell said they were met for one common object, to do honour to Mr. Stanley; and he believed they were all equally anxious to show their appreciation of his character. The chairman had rendered great service to the object before them, by having attended this meeting; and the vice-chairmen, who, doubtless, were equally capable of judging of Mr. Stanley's merits, had also rendered good service by occupying their respective positions at the dinner table.—(Cheers.) He was afraid that Mr. Cowper would not be able to ride quite so well, now that Mr. Stanley had left the neighbourhood; but he hoped it would not unnerve Mr. Potts from writing.—(Laughter and cheers.) These were changeful times, but whatever changes might take place in the district of Banbury, he hoped their vice-chairmen would be proposed as councillors to serve under the present worthy Mayor.—(Roars of laughter.) He had no doubt they would have every vote in that room, and that the Mayor would be equally proud to be associated with them in the council.—(Renewed laughter.) Without saying anything further in their praise, he gave "The Vice-Chairmen." (Three times three.)

Mr. Potts and *Mr. Cowper* acknowledged the toast.

Mr. Rose said he had a toast to propose which they would all drink with pleasure. It was the health of "The Mayoress and family." (Three times three.)

The *Chairman* responded on Mrs. Draper's behalf.

Mr. W. Page observed there was a body of gentlemen who had been the means of drawing up the testimonial. He gave them "The Committee."—(Three times three.)

Mr. J. Barford replied on behalf of the committee. He was quite sure that one and all of that committee had been actuated by the same feeling of personal respect, and the same desire to promote Mr. Stanley's future welfare. (Hear, hear.) Mr. Stanley had resided in Banbury many years, and by uprightness of character, and gentlemanly conduct, he had won for himself the esteem of the town and neighbourhood. (Cheers.) With regard to Mr. Stanley's professional skill, he might be permitted to give his humble testimony, having employed him for more than twenty years, and had always been perfectly satisfied with his skill, his great attention, and moderate charges. If there happened to be any one present from Birmingham, he would say he might safely confide himself into Mr. Stanley's hands; and that the loss which Banbury sustained would be the gain of Birmingham. If respectability of character and propriety of conduct laid a claim to public patronage, then he would say that Mr. Stanley had a special claim. (Cheers.)

Mr. H. Cowper said he considered fox-hunting a most beneficial sport to both body and mind. He was looking over a Yorkshire paper the other day, which gave an account of the yearly expenditure consequent on the keep of horses and hounds, and which showed that fox-hunting was one of the chief supports to agriculture. In this neighbourhood Mr. Tom Drake was a most excellent master of hounds; and therefore he would give them, "Success to Fox-hunting, and Mr. Tom Drake."—(Three times three.)

Mr. Gulliver responded.

Mr. Fortescue paid a high compliment to Mrs. Stanley, and proposed, "Mrs. Stanley and her family."—(Three times three.)

Mr. Stanley acknowledged the toast.

Mr. Drinkwater said it fell to his lot to propose the health of a young gentleman, Mr. Stanley's successor. (Cheers.) He was sorry to say the day had gone by for giving him (Mr. Page) that support which at one time he was able to give to Mr. Stanley; but he could say this, he believed Mr. Page to be deserving of their support. (Cheers.) Although he was a young man, their old friend Stanley was as young when he first came to the town. He (Mr. Drinkwater) was placed as a sort of guardian when Mr. Stanley first came to the town, and although he was shy, yet he possessed con-

fidence in himself. He hoped Mr. Page would be as successful as Mr. Stanley had been. He believed him to be a steady young man, and that nothing would be wanting on his part to gain their esteem and confidence as Mr. Stanley had done. (Cheers.) No one regretted Mr. Stanley's removal more than he (Mr. Drinkwater) did. If they wanted him to make one of a party, he was always ready, and they could make a friend of him. He trusted his successor would be such an one as that they would not feel Mr. Stanley's loss so greatly as they otherwise might. He gave them, "Mr. C. N. Page, the successor to Mr. Stanley." (Cheers.)

Mr. Stanley wished to say a few words before they drank the toast with honours. He need not say he duly appreciated the confidence which had been reposed in him, and he felt it was his duty to select a man who deserved their confidence and would endeavour to merit it. He might have brought an older man; but he considered that Mr. Page had been placed in one of the best schools, under the care of Mr. Lever of Aylesbury, a gentleman who stood high in his profession, and who had worked himself into his position by industry and all those qualities which were requisite to gain that standing. It was at his (Mr. Stanley's) suggestion, that Mr. Page was placed under Mr. Lever's care. His friend Mr. Page, had had every opportunity of fitting himself for his present position; and he had heard favorable accounts of him at College and elsewhere, and of his devotion to the attainment of scientific knowledge; and if he was not deceived, he thought Mr. Page would be a more useful man for this neighbourhood than he (Mr Stanley) had been; for he had combined with his studies a knowledge of sheep and cattle, which was important for a purely agricultural district. (Cheers.) He also wished to say that so long as Mr. Page conducted himself respectably, either he (Mr. Stanley) or his brother would always be ready to lend their aid when he might need it in important cases. Trusting that Mr. Page would receive that support which he believed he deserved, he wished him every success. (Cheers.)

The toast was then drank with three times three; and,

Mr Page rose to respond. He returned them his heartfelt thanks for the handsome manner in which they had been pleased to drink his health. His powers as an orator were very limited, but if they were greatly extended, he could not express how grateful he felt. (Cheers.) When he looked round the table he thought he was the youngest man there; yet he believed there was not one present who felt a greater ambition to rise to the position that Mr. Stanley had reached

than he did. (Cheers.) He could assure them it should not be for want of perseverance and industry if he did not attain to such a position. His exertions should be at their call day or night, and he would render them all the service in his power, than which nothing would give him greater pleasure. Not many young men had had the pattern set them that he had now. He saw the value of honourable, straightforward conduct; and it stimulated him to aspire to the honours of his friend Stanley. To succeed would be a source of happiness to his father and friends; and he trusted they would be charitable enough to give him a trial—every one of them. (Cheers.) He knew that human nature was liable to err; but if he did err, it should be in judgment, not in principle. Ho would never have the reflection that he was neglectful. (Cheers.)

Mr. R. Field proposed the health of the father of the company—"Mr. Alban Bull." Three times three.

Mr. Bull responded, expressing a hope that Mr. Stanley, one of whose first customers he was, as Mr. Field had said, might succeed in his new position. (Cheers.)

Mr. Stanley said that in the arrangements consequent upon disposing of his business to Mr. Page, Mr. R. Field had acted the part of a friend; therefore he wished to propose his health. He gave them "Mr. R. Field." (Three times three.)

Mr. Field replied to the toast.

The Chairman said to Mrs. Fowler they were greatly indebted at this festive board, and therefore he begged to propose "Mrs. Fowler and the family." (Three times three.)

Mr. Fowler briefly responded; and this closed the toast list. The party, however, sat for some time longer, and great conviviality prevailed. During the evening harmony was greatly promoted by the excellent singing of a number of gentlemen.

*** It not often falls to our lot to have the pleasing task to perform we have at present before us—to congratulate a fellow-member of our profession on the successful results, social as well as professional, of a career of twenty years of private practice and intercourse. On the present occasion, albeit Mr. Stanley is a gentleman entirely unknown to us, we do so, not only unhesitatingly, but with the most unfeigned satisfaction.—Ed. Vet.

CHEMICAL TRUTH.

The legitimate and proper object of Chemical researches is the establishment of the truth, and the object of Chemical evidence is professedly the same. Yet we often find experimental Chemists diverted from the right scent by their propensity to bolster up some favourite theory, and Chemical witnesses are subject to a similar frailty, from a natural tendency to lean towards the side on which they are retained.

In the legal profession the all-inspiring ambition is "a verdict." In the struggle for this prize truth is distorted, fact is so blended with fiction that it appears under false colours, justice is reduced to a mere hypothesis, and the lawyer who can obtain the acquittal of a man whom every body believes to be guilty, or non-suit one who was supposed to be sure of a verdict, stamps himself a distinguished member of his profession, and is eagerly sought after by the public.

It is not so with the Chemist. He is not called into the witness-box as an advocate or a logician, but as an authority with reference to a plain matter of fact on which his knowledge and experience enable him to throw some light. Yet it is difficult even with this obvious line of duty before his eyes, to divest his mind of all prejudice, and avoid the appearance at least of adapting his testimony to the purpose for which his services have been called into requisition. In this he may be assisted by the counsel, who, in the examination in chief, naturally dwells on that part of the evidence which is most favourable to his case, avoiding such questions as might lead to unsatisfactory answers; and thus, unless the witness should chance to break down on cross-examination, he may without deviation from the truth, serve the party who retained him, in a case in which he might as easily have thrown the weight in the other scale if he had been retained by the opponents and questioned accordingly. But the professional character of the Chemist, is not, like that of the lawyer, concerned in the result of the trial, nor would he gain credit by purposely and ingeniously distorting his evidence so as to mislead the jury. On the contrary, if such a charge were substantiated against him he would cease to be an authority, and on a future occasion his evidence would have little weight.

It does happen, however, that the evidence of Chemists is sometimes very contradictory, and for the honour of the profession some explanation of the circumstance is desirable. It may be accounted for in part by the different meaning

assignable to words according to the sense in which they are used, whether in a scientific, a practical, or commercial sense, &c., the Babel of theoretical hypothesis may lead to a mutual mystification between the witnesses, or there may be a difference of opinion among authorities in the absence of any tangible means of proof or demonstration. In the case reported at some length in our last number, in which the question hinged on the meaning of the term *coal*, five Professors of Chemistry, three Professors of Mineralogy, a Microscopist, three Geologists, and eight other witnesses practically acquainted with mining operations, swore that in their opinion a certain mineral product was not coal. Nine Professors of Chemistry, four professors of Botany and the allied sciences, and sixteen other practical witnesses conversant with geology and mining, pronounced it to be coal. For the purpose of the trial nearly all this display of science was wasted and misplaced, as the jury were at last thrown on their own resources; in other words, they took a common-sense view of the case. The defendants took the lease of the mine with a view of obtaining gas-coal. They found a substance known in the locality by that name, answering the purpose required, in every respect what they wanted, and what they expected to find. On the same principle, a quibble might be raised respecting the meaning of the term blacklead, and an action might be brought to vitiate a contract on the ground that it contained no lead. The gravamen of the contention in the coal case had no reference to the *quality* of the material, but the action arose out of the fact that the *quantity* found exceeded the expectations of the plaintiffs. If the quantity had been inconsiderable, its identity would not have been called in question; but the large returns made it worth while to call in the aid of science to cancel a lease on the strength of a technical definition based upon chemical analysis.

A remarkable case of this kind—that of Severn *v.* the Imperial Insurance Company—is reported at length in the *Quarterly Journal of the Royal Institution* for 1821. The plaintiff was a sugar-refiner, who had insured his premises, &c., with the defendants for £70,000. The premises having been destroyed by fire, the defendants refused to make good the loss, in consequence of heated oil, circulating through a pipe in the sugar-pan, having been used for boiling the sugar; and the principal question at issue was, whether the oil, at the temperature at which it was used, emitted inflammable gases, so as to render the process dangerous. The case was tried in the Court of Common Pleas, at Guildhall, before Lord Chief Justice Dallas, who, in summing up, made the following

observations: "We have been now employed in the examination, during two days, of a great number of the most intelligent persons that this country or Europe can produce. I am myself, more or less, acquainted with all the writings of every one of these gentlemen. From this I know their information, I know their talents; and whether my time has been well or ill employed, I will not say, but I am proud to acknowledge, that from their labours I have received at times a considerable degree of pleasure. But I must add, that these two days, thus employed, are not days of triumph, but days of humiliation, for science; for when I find that their science ends in this degree of uncertainty and doubt, and when I observe they are drawn up in martial and hostile array against each other, how is it possible for me to form, at a moment, an opinion upon such contradictory evidence? You will not, therefore, expect any opinion upon this part of the case from me; I can form none. Volumes have been spoken upon it, and I foresee, without being blessed with the spirit of prophecy, that volumes will be written upon it; and so they ought, for the elucidation of science, and the enlightening of mankind."

It has often been remarked, that on trials of this description little or no reliance is to be placed on chemical evidence, because the witnesses on each side flatly contradict those on the other, and there are, unfortunately, too many instances on record which afford a ground for the allegation, to admit of its being refuted. At the same time, the incongruity would appear much less striking if chemical evidence were taken at what it is worth, instead of being interpreted literally, without making the necessary allowance for theoretical conventionalities and the abstruse nature of the questions at issue.

We think the system now in force in trials of this nature is radically at fault. Scientific men ought not to be retained by each party, and called to the witness-box under circumstances in which it is extremely difficult, if not impossible, for them to avoid feeling to some extent as partisans, and thus unconsciously deviating from that strict impartiality which ought to be maintained in questions relating to scientific truth. This liability to divergence would be removed, and the ends of justice more effectively promoted, by the appointment of a scientific commission, to whom reference should be made when chemical or other scientific evidence is required. The parties selected to investigate and give evidence upon any particular subject, not being retained on either side, and not being either directly or indirectly interested in the result, would have their minds concentrated on the facts before them,

and in their evidence on chemical subjects they would be much more likely to arrive at that which is the legitimate and proper object of such evidence, namely, chemical truth.—*Pharmaceutical Journal, October*, 1853.

ON THE ACTION OF COD-LIVER OIL AS A CURATIVE AGENT IN THE TREATMENT OF DISEASE.

Dr. Glover has communicated a paper on this subject, from which we take the following quotations:—

"My objection to the theory, that the fact of oil placed in contact with albumen under the microscope forms a globule with a central nucleus and outward pellicle, affords any sufficient explanation of the value of cod-liver oil in scrofula and phthisis, I retain as strongly as ever. Dr. Bennett, in his recent work, says that I object to his views because, 'first, so far as his analysis goes, the fats are not deficient in blood,' (scrofulous;) 'second, because tubercle itself often contains a considerable quantity of fat; and third, because the theory is too mechanical, and vitiates itself by giving a too easy explanation of great difficulties.'

"Now, that this explanation is too mechanical, I submit for the following reasons: I ask any person if it is reasonable to suppose that the mechanical fact of a little albumen and oil forming a globule with a non-vital nucleus can explain the power of cod-liver oil in enriching the blood? But other substances mixed with albumen assume a similar appearance, although I admit that oil is one of the best. But I believe the explanation, whatever it may be, is rather a chemical than a mechanical one, if the following facts, which I have occasionally thought upon for years, be correct:—

"First,—That drunkards hardly ever die of phthisis. Even if the proportion of deaths form phthisis in drunkards were only as great as in other people of more temperate habits, the circumstance will still be curious, since an irregular life, *cæteris paribus*, predisposes to phthisis; but if it be the case, as I have stated, that drunkards rarely die of phthisis, the circumstance is still more remarkable. Drunkards, of course, die of numerous diseases, but I believe rarely of phthisis. Second,—Oils of all kinds and fatty substances are beneficial in phthisis. Third,—Pitmen, according to my observation and inquiries, very rarely die of phthisis.

"If the first and last kinds of alleged facts are incorrect, I

shall be glad to have them corrected; if they are true, what do they point to?

"Oil, alcohol, and the carburetted hydrogen of mines, constantly inhaled by the coal-miners, all agree essentially in affording to the blood large quantities of combustible substances; and I may mention along with this, that I have known, during my experience, many instances of young surgeons of small fortunes being compelled to go a voyage in a Greenland ship, and thus saved for some time at least from hereditary phthisis. Now during these voyages there is great consumption of nutricious substances, and perhaps not a little of alcoholic fluid.

"I infer that the efficiency of the oils, and, generally speaking, the hydro-carburets in tuberculosis is due to some chemical influence which they exercise. This is supposing my premises admitted.

"In the last part of Dr. Pereira's works, just published, the editors, in seeking to explain the operation of cod-liver oil, attempt to return to the idea that it is due to the iodine and bromine in the oil. They say—'as the oil contains iodine, and as it proves most successful in those maladies in which this element proves successful, it has been suggested that iodine is its active principle. Taufflied, however, denies this, and asserts that the properties of the two are not identical, for the one succeeds where the other fails. Is bromine the active agent? (It must not be forgotten that iodine and bromine are combined organically with some of the constituents of this oil, and in such manner that they are not to be immediately recognised by the ordinary tests. This fact may perhaps tend to develop a peculiar action of iodine and bromine, and endow them with an efficacy not otherwise attainable.)'

"Now in 100 parts of oil there are never more than 0·04 parts iodine, and as iodine exists in all fish, what possible virtue can it have, especially as it no doubt exists combined with alkaline or earthy bodies? A fabulous reputation seems attached to bromine. I have taken the bromide of sodium to my dinner instead of common salt!

"The fact is that all the chlorides, bromides, and iodides are analogous; they afford a beautiful illustration of the greatest law ever observed in therapeutics, and of which very few seem to be capable of realising an adequate idea—viz., that the chemical properties of bodies are exactly imitated by their physiological and medicinal properties.

"Some years ago, as an illustration of this great law, I selected the group of chlorine, bromine, and iodine, so closely

related in their chemical and physical properties, and as the compounds of bromine had been least examined, they were especially chosen; and I think I proved that the physiological activity of these bodies was as their solubility and their facility of decomposition, with this allowance, that as chlorine is the more active element of the three, chemically, so it and its compounds are the more active of the three physiologically, *cæteris paribus*. We find everywhere bromine and its compounds occupying an intermediate place between the others physiologically as they do chemically.

"In the electro positive salts—say, the chloride, bromide, and iodide of potassium—the chloride is the least easy of decomposition and the least soluble, the bromide more so, the iodide most, in the ratio of their activity. When we come to the electro-negative compounds—say, those of mercury—when the affinities come to be inverted, there the physiological and medicinal powers are inverted also; for instance, iodine will decompose the chloride of mercury, while it will not decompose the chloride of potassium, and the chloride here is the most active, the bromide less so, the iodide least. Now I account for this by supposing that the activity of such substances depends in great part upon a series of molecular changes which they produce in the system, and that the elements liberated in the nascent form in the system produce a series of combinations and decompositions; but the fact remains, that these bodies are closely related, and as cod-liver oil contains more chlorides than bromides or iodides, the activity of it may just as well be attributed to the first class as to the others. But *omne ignotum est pro magnifico*. In the 'Archives Générales d'Anatomie,' for 1846, there is a paper which would seem to controvert some of these views; but for the present I shall content myself with stating that I adhere to them.

"The late Mr. West, of Leeds, in an analysis of the mineral water at Shotley Bridge, in the county of Durham—which, if his statement be correct, has wrongly fallen into desuetude—states that there are traces of bromine, and attributes great probable powers to it. Now, as the proportion of bromides—for of course the bromine must exist in combination—is in infinitesimal proportion to the chlorides, this idea is another illustration of the hallucination which many men appear to entertain with regard to these bodies.

"As a further illustration of the relationship between all the properties of the chlorides, bromides, and iodides, I may give an extract from the recent letter of Dr. Cogswell on the 'Employment of the Chlorate of Potass in Cholera,' pub-

lished in the *Lancet*, of October 22d. He found the endosmotic properties of the chloride, bromide, and iodide of potassium, to be as follows:—

"'Elevation in inches—1st hour: chloride, 1·5; bromide, 5; iodide, 3. 2d hour: chloride, 4; bromide, 2; iodide, 1.' Always the chloride occupies the first position, the bromide the second, and the iodide the third. As the extraordinary confirmation which these results afforded to my conclusions was unknown at the time, and not thought of by Dr. Cogswell, they are the more valuable.

"In conclusion, in my work on Scrofula, I say that the merits of cod-liver oil are in all probability 'as a tonic, from the resinous principle it contains; by stimulating animal heat; occasionally by acting as an aperient; and also as a deobstruent, more particularly by increasing the quantity of urine.'—*Lancet, November* 12, 1853."

ON CERTAIN PATHOLOGICAL STATES OF THE BLOOD,

ESPECIALLY CHARACTERISING MANY DANGEROUS DISEASES, AND OF THE INTENTIONS AND THE MEANS BY WHICH THESE STATES ARE MOST SUCCESSFULLY TREATED.

By James Copland, M.D., F.R.S., President.

In this communication, the President gave a description of many pathological changes of the blood, leaving the consideration of the treatment of the diseases caused by them until the next meeting. He stated, that the fact of the alteration of the circulating fluid in various severe and malignant forms of disease had greatly engaged his attention, and referred the Society to many articles in his work upon practical medicine, entitled, "Abscess, Absorption, Erysipelas," &c. &c. and remarked that his views had been long before the profession. He hoped, by bringing them in a clear and connected form before the Society, that important information might be obtained relative to the source of disease of blood, and of the avenues and channels by which this disease was diffused. Particular attention was directed to that morbid state of the blood termed "contaminated" or "vitiated." He divided the origin of these morbid changes into six classes. First, from causes acting upon the digestive system, and, consequently, upon the vessels connected there-

with; secondly, from agents taken in by respiratory action; thirdly, from causes acting upon any external surface or tissue of the frame; fourthly, from the arrest, or even from the impeded action of any eliminatory function; fifthly, from the absorption of any morbid product into the circulating system; sixthly, from the abnormal condition of the vital force, or of the nervous centres acting upon the heart and blood-vessels, having a reciprocating influence upon the hæmato-globuline circulating in the blood. Copious illustrations were given on each of these heads. The effects of food, emanations from various sources of pollution, absorption of "sanies," and of any puriform secretion into the circulating channels, were fully discussed. Attention was directed to the evils caused by defects of the various excretory functions, the due performance of which was necessary to the healthy state of the blood; and lastly, to the agents, extrinsic or intrinsic, which either excite or lower the nervous system, and thus influence the vascular system. The author remarked upon the operation of these agents upon the blood, manifested by a degeneration or waste of the red blood corpuscles. The changes they caused were said to be the following:—1st. A complete metamorphosis or change of the hæmato-globuline. 2d. A portion of the red blood corpuscles being transmuted into bile. 3d. The change of epithelial cells from the kidneys and mucous follicles into red blood corpuscles. 4th. Their gradual expenditure in the elaboration of the genital secretions in both sexes. Reference was made to Mr. Simon's nomenclature of blood diseases, and a review passed upon some of the most striking malignant diseases arising from an altered state of the blood. In conclusion, some illustrative cases were given.—*Read at the Royal Med. and Chirurg. Society.*

UREA.

Urea is one of the most important immediate principles of urine, where it is known to exist in the free state, and, probably, also combined with chloride of sodium.

Urea was discovered, in 1771, by Rouelle, junior, who observed its presence in urine. Cruikshanks, in 1798, obtained it in the crystallised form. Fourcroy and Vauquelin gave it its present name. Its existence in the aqueous and vitreous humour of the eye was detected by Millon; and Wöhler found it in the liquor amnii. Pettenkoffer traced it in the saliva; and, according to Stass, urea may be extracted

from the blood of the placenta. M. Paul Hervier has obtained urea from human blood, when operating only upon 250 or 500 grammes of it. The blood he used had been taken from patients suffering under rheumatism, pneumonia, or erysipelas; he concludes, however, that urea is normally present in that fluid. According to Prout and Dumas, the blood contains an excess of this substance after the removal of the kidneys. At the approach of death, when the intestinal secretions diminish, Bernard and Barreswill will have also observed a decided increase of the urea existing in the blood.

The amount of the urea of urine has been found to vary according to a number of circumstances; but, unfortunately, the methods for the extraction of this principle have led to no satisfactory result. We are much indebted to Liebig, who has very recently pointed out a new process for ascertaining the amount of urea existing in the urine, which cannot but lead to very accurate results. The urine of young children hardly contains a trace of urea. According to Lehmann, normal urine will yield from 31·45 to 32·90 per 1000 of this substance. The amount of this principle secreted in the twenty-four hours is modified by a variety of circumstances, including especially the nature and quantity of the solid and fluid ingesta.

Urea is always found dissolved in the urine, from its being exceedingly soluble in water. Several theories have been given as to the source of urea in the system; it is known, however, not to be formed by the kidneys, for the excision of those organs causes an increase of urea in the blood. According to chemists, this substance is the result of an oxidation of tissues. Their carbon and hydrogen are converted into carbonic acid and water, to be eliminated through the lungs, whilst the nitrogen, combining with hydrogen, will assume the form of ammonia. This gas, in the presence of carbonic acid, is supposed to lose one equivalent of water, and the final combination will be urea. Other theorists suppose that cyanate of ammonia is formed in the blood (from the oxidation of its nitrogenised elements), which is subsequently converted into its isomeric compound, urea.

Urea is secreted from the blood by the kidneys, and thus expelled from the body. An excess of that principle in the blood is not necessarily followed by an increased amount of it in the urine; and if its proportion in the urine be diminished, as happens in some diseases, we are not certain of finding its quantity in the blood larger than usual: for M. Cl. Bernard has observed, that urea is often secreted by the stomach and intestines, where it loses its nature, and assumes

the form of ammoniacal compounds. This vicarious secretion comes into action whenever the kidneys are insufficient to remove all, or the greater part, of the urea contained in the blood.

Extraction.—To extract urea from the urine, that fluid is first evaporated to almost one-tenth of its bulk, and then mixed with a small quantity of nitric acid free from nitrous acid. There occurs instantly, in a concentrated solution, or after a few minutes if it be diluted, a crystalline precipitate of nitrate of urea, which can be easily purified by repeated crystallisations. This compound will yield pure urea if it be treated with carbonate of lime, or carbonate of baryta, to separate the nitric acid as nitrate of lime or nitrate of baryta. This fluid, evaporated to dryness, is treated with alcohol, when the urea will crystallise by concentration. We have observed that the presence of sulphuric acid does not prevent the formation of nitrate of urea; on the contrary, it appears to hasten the combination, which assumes, in this case, a beautiful pearl lustre, much more remarkable than when nitric acid is made to react upon urea in pure water. It is sometimes advisable to use oxalic instead of nitric acid; the operations required in both cases are exactly the same. We have employed another method for separating urea from urine, which has enabled us to obtain this substance directly, without having recourse to a series of combinations and decompositions. The urine is first evaporated on the water-bath, and the solid residue thoroughly dried over sulphuric acid, under the air-pump. The brittle mass is then to be treated with boiling absolute alcohol, until it yields no more colouring matter to that fluid. It is advisable, in order to obtain this extract, to employ repeated small quantities of alcohol, the solution being decanted after each operation. By this process the whole of the free urea contained in the urine examined may be extracted, together with a small quantity of common salt: test-paper will show this alcoholic solution to have a strong acid reaction. Sulphuric ether is then added to the acid alcoholic extract, care being taken to pour it gently down the sides of the glass to prevent the fluids from mixing. At first, a cloudy precipitate will appear at the line of contact of the two liquids, gradually extending below and above. Five or six hours afterwards the precipitate disappears, when the sides of the breaker will be found covered with beautiful, needle-like crystals of urea, sprouting from the sides and bottom of the glass to the centre of the fluid. Ether is now added until the precipitate ceases to appear, and another crop of crystals is obtained. We have frequently observed the

crystals of urea, at the end of the operation, to sprout from one side of the beaker to the other, being interlaced in a variety of ways. Large leaf-like masses of crystals are often seen adhering to the others, and resting upon their thickest extremity, or that connected with the glass. From their being mixed with a little common salt, the crystals of urea deliquesce very readily as soon as the mother-liquor is decanted; but another crystallisation in water will produce them in the pure state. The acid liquor may now be used for the extraction of the peculiar acid. From the above method for the extraction of urea, we may safely conclude that by far the largest proportion of this substance exists in the free state, as one of the immediate principles of human urine.

If an alcoholic extract of urine be concentrated, needle-like crystals of urea are deposited, mixed with the inorganic salts also dissolved by the alcohol; these crystals will occasionally lie parallel to each other, but generally coalesce into stellate groups adhering to the bottom of the capsule. We have frequently observed this crystallisation to occur in the concentrated alcoholic extract of dog's urine, which contains a large proportion of urea. If a drop of a solution of urea be evaporated on a glass plate, the crystals will assume a peculiar arborescent structure, transmitting, very readily, polarised light. It also often happens in this case that a number of parallel crystals of urea will be connected to each other transversely by shorter crystals. If urine be evaporated to the consistence of a syrup, and left undisturbed for a day or two, a crystallisation of urea will appear, assuming the form of long prisms or large striated needles, with a granular surface.

To extract urea from blood the fibrine has first to be removed, and then the fluid, mixed with an equal bulk of water, is heated to the boiling point and strained through calico. The serum free from fibrin, from albumen, and from colouring matter, is evaporated on the water-bath to a thickish consistence. The addition of alcohol to the residue will cause an abundant precipitate to appear, and the filtered alcoholic solution is treated with oxalic acid, to separate the fatty matters which have now become insoluble. The fluid is again filtered and rinsed with ether; the latter floating on the water will contain all the hippuric acid of the blood; it must be decanted; the aqueous solution neutralised with carbonate of lime is finally evaporated to dryness under the air-pump. If this dry residue be treated with alcohol, it will yield an alcoholic solution of urea, from which the latter can be easily obtained in the crystallised state or combined with nitric or oxalic acid.

Urea is very soluble in water and in alcohol, but dissolves sparingly in ether. When burnt upon a platina spatula it emits a peculiarly nauseous smell, which is often sufficient to show its presence. It combines with nitric and oxalic acids, but not with sulphuric acid; we have observed, however, that the presence of the latter appears to hasten the formation of nitrate of urea in dilute solutions. The combination of nitric acid with urea when viewed under the microscope is seen to consist of superposed crystallised plates, or rectangular and rhombohedral prisms. If nitric acid be added to urine concentrated in a watch-glass, thick lozenge-shaped crystals often occur, two of them aggregating in the shape of a cross, or several joining to produce an arborescent structure. Nitrate of urea is sparingly soluble in cold water; it dissolves in hot alcohol, but not in rectified ether. When oxalic acid is added to concentrated urine, tabular groups of crystals similar to the former are obtained, occasionally assuming the form of very flat prisms. When the crystallisation has been rapid, we may detect groups of elongated crystals resulting from small imbricated prisms. Along with these, several other crystalline forms occur, as spherical masses of laminated crystals. The crystals of oxalate of urea have a peculiar yellow colour; they transmit polarised light.

Liebig has discovered lately a very accurate method for ascertaining the amount of urea contained in fluids. For this purpose he prepares a normal solution of acid nitrate of mercury in water, and determines, by pouring it from a graduated tube, how much of this solution will precipitate a given quantity of urea. By adding this fluid to an unknown solution of urea until the whole of it has precipitated, the quantity of the urea precipitated and therefore contained in the solution will be at once detected. The amount of urea obtained from urine by this method is slightly larger than that yielded by the other process.—*Traité de Chimie Anatomique et Physiologique, &c. Par C. Robins et F. Verdeil; Paris,* 1853.

THE VETERINARIAN, JANUARY 2, 1854.

Hail, one thousand eight hundred and fifty-four! But a little while ago we were writing 1853; and now we are called on for 1854. Another year is added to our own age, to the age of our Journal, to age of every description. The wheel of time has completed another annual revolution: and nothing so much as a retrospect through the vista of past years makes us conscious of the number of similar revolutions that have been made even in our own time; while the apparent rapidity of such revolutions, then, for the first time, becomes sensible to us. Of the various vocations in society, none feel the value of time more than professional persons. The divine is enjoined "to work while it is day: the night cometh when no man can work." The time of the lawyer and doctor is their stock in trade. While the man busy in heaping up this world's riches, feels that time lost is to him neither more nor less than so much money, if not lost, at all events ungained. Even poor journalists, like ourselves, dare not squander away time, knowing but too well that one day lost must be compensated for by extra labour on another, and that there will come days on which no procrastination whatever can be admitted. The work recurs with periodical persistence: month by month, week by week, day by day, the task makes its regular call; and even the conclusion of the old year sets no finish to it, the ending of that being but opening the way to the commencement of the new year; and so, on and on we go, even to the end of time itself. This is supposing that the work, whatever it be, prove a successful enterprise; since, otherwise, for ought we know, it may terminate the very next year, and even during the one in which it is being written. This uncertainty connected with periodical literature will not appear clearly until the eye be thrown, broadcast, over this field of science, and little as well as large craft, sailing *in surgite vasto*, barely maintaining their sail, or sinking with the first heavy squall, come to be taken into consideration, along with concerns so long and firmly launched, that hardly any accident seems capable of arresting their onward course or destroying their prosperity.

Under the auspices and favour of the Veterinary public our little *barque* is steadily riding, making its twenty-seventh voyage, in waters which have proved fatal to some half-a-dozen similar craft. We have lived while they have swamped; and yet the uncertainty of our own existence is as great as attaches even to animal life. Obviously, our perpetuity must

be dependent upon the support of the veterinary profession. So long as the members thereof man our yards, our vessel is safe. We do our best for it ourselves, and our best friends have done their best for it; and we sincerely thank them for their co-exertions. When we do founder, it will not be their fault; neither shall it be ours.

Whenever an author may find it necessary or expedient to reply to the reviewer of, or commentator upon, his work, his motive for so doing is apt to be some feeling of dissatisfaction. If he be content with what is said about his production, seldom is any further notice taken of the matter. But, should difference of opinion, or any sense of umbrage in his breast, arise from the nature of the review, there appears then room or reason for reply; though, so far from such reply being offspring of any ill feeling, it may simply originate in a desire to settle a point on which author and reviewer happen to differ so materially, as (the point in dispute being an important one,) for the sake of the science it has reference to, and the practice thereof, they ought, if possible, to be brought to some uniform and settled conclusion upon it. It is possible, it may strike some of our readers as somewhat strange, and irreconcileable with the rules of "Cocker," that an Editor's work should undergo "review" in his own Journal, and that the review be—as reviews usually are—anonymous, or all but anonymous: the saving clause being but the addendum of the foot-letter G., which some may misinterpret; though others will not. To make use here of a vulgar saying, "no one will dirty his own nest;" therefore, the natural inference of such a proceeding would seem to be, that the reviewer—who might, possibly, be construed to be *the Editor himself*—of course would not brand the author with a "bad name," *alias*, enunciate aught but delectable things about *his own* book. In the present case, we shall not pay our readers so ill a compliment as to suppose they will not speedily discriminate between the styles of two writers which are by no means similar, to say nothing of the manifest spirit of candour and honesty with which one part of the work is denounced, while another part is commended; and to add, less than nothing about the final appendage G.; which really and in truth is the incipient letter of our reviewer's name.

Thus much premised, let us come at once to the point we are aiming at—to the bone of contention. And yet, before we disclose this, we feel ourselves in duty bound to offer our humble but sincere thanks to our reviewer, for what he has been pleased to say about our labours; but, above all, for

having brought under our notice a point which we must confess had never suggested itself to us before, and simply for the reason, that we had never, in our own mind, entertained a doubt on the *matter of fact* being otherwise than we have represented it. The question appears to amount to this—Is laminitis on all occasions an *idiopathic* disease, or is it sometimes a *metastatic* one?—and, if the latter even, what diseases do we observe it, in practice, to prove, on occasions, the sequel of? Our own opinions are already expressed on the point, and in more than one place, viz., in the work reviewed in our last, (Part I, vol. II, Hippopathology,) and in Part II, vol. IV, of the same work, devoted to "Lameness in Horses." In the latter, under the sub-heading of 'Acute Laminitis," at page 401, we say: "Metastasis of inflammation from the lungs to the feet, after inflammation in the former has happened to be severe, and is becoming protracted, is a mode in which laminitis, *on occasions*, takes its rise. The inflammation is then said to fall from his lungs down into his feet, though it oftener happens that the inflammation "falls" into the joints, producing "rheumatic lameness." As soon as the metastasis has taken place, the lungs become relieved through it, nor is the fever that has "fallen" into the feet of so violent and unmanageable a character as is idiopathic laminitis." It is added, that metastasis, it is believed, may take place from *the feet to the lungs;* and that "*metastasis from the bowels to the feet* is hardly less rare." Now, these are no chimerical notions; they are statements founded upon deductions from practice, which have been believed to have warranted them. Cases under the name of "Influenza" have been found to be oftener disposed to translated laminitis than those of "pneumonia" have proved; but then, in the form of *influenza*, the lungs have been suffering parts. However, it would avail nothing further on our part, to say more than we have said on the subject. We hand over, with a mind still unbiassed and unwedded to any old or former opinion, the point of difference to the members of the profession, especially to those elders of it whose decision will, based upon years of experience, at once command respect and submission. Meanwhile, we will state what we find already on record on the subject:

In March, 1850, Mr. Stevens, V.S., Hayes, sent a case to the *Veterinarian*, headed "Influenza, followed by typhoid pneumonia, laminitis, and dropsy." He reported that "three valuable horses in the same stable were attacked with influenza last month. Two of them soon recovered under the usual treatment. The other, after two days' attendance, showed

symptoms of pneumonia, for which I treated him; the pulse warranting me to abstract blood, I did so cautiously. Metastasis of the disease took place; *it fell into the two fore-feet, &c.*"

Mr. Gloag, V.S., 11th Hussars, relates a case in the *Veterinarian* for January, 1851, in which laminitis followed abortion. The mare, 4 years old, was one recently purchased for the regiment in the north, whom Mr. G. suspected at the time to be in foal. She joined on the 15th of November, and on the 2d of December was seized with pain like colic, but which proved to be labour pains, and which terminated in the abortion of a fœtus. For a couple of days the mare went on "remarkably well," but on the 4th of December, in the evening, was suddenly seized with pain of another character, shifting about, and panting, &c., which turned out to be laminitis "of the most violent description."

At the time of the existence of the London Veterinary Medical Society, at an especial meeting on the 19th of March, 1836 (of which an account will be found in vol. IX of the *Veterinarian*), a discussion took place on this very point, on which occasion a Mr. Fagan (to whom the meeting was specially granted) introduced a paper "on the Diseases incidental to the horse's foot," abounding, it was said, "with sound, practical, and useful information;" wherein Mr. Fagan stated that "this affection (laminitis) he had witnessed as *a very common sequela of attacks of the lungs;* when, from long standing, the feet have increased vascular action set up in them, and not infrequently it constitutes true metastasis."

A member doubted the instance of true metastasis in the horse. He would rather say that the laminæ, from being kept too long on the stretch, became themselves the subject of disease, than that it was the transference of it from the lungs to the feet.

Many interesting cases of *laminitis following influenza* were related by the members, &c.

PROCEEDINGS OF COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

A Special Meeting of the Council of the Royal College of Veterinary Surgeons was held at the Freemasons' Tavern, on Wednesday, December 14th, 1853, to receive the Report of the House Committee, and to make arrangements in accordance therewith.

Present:—The President, Messrs. Braby, Ernes, Henderson, Peach, Silvester, and the Secretary.

The President in the Chair.

The Minutes of the preceding meeting having been read and confirmed,—

The Secretary read the following Report from the House Committee.

Your Committee have to announce, as the result of the negociations reported at the last Quarterly Meeting, that they have taken, as a "local habitation" for the College, the house No. 10, Red Lion Square; hereafter to be designated the "Institute of the Royal College of Veterinary Surgeons." As some compensation for the delay which has hitherto attended their labours, they are happy to state, that these premises afford by far the greatest extent of accommodation of any previously selected by them. On the first floor are four rooms well calculated for Council and Board rooms, Library, and Museum, with a waiting room for the Students in connection therewith. The rooms are sufficiently spacious, not only to accommodate the Council and Examiners at their Meetings, but also at the Annual General Meeting, &c., the members of the profession will be enabled to assemble under their own roof. The situation is central, and easily reached from any of the railway termini.

The house is taken on a lease of 7, 14, or 21 years, at the very moderate rental of £60 a year. It is undergoing a thorough repair, and the Committee trust the next Quarterly Meeting of the Council will be held therein.

The expense of purchasing the fixtures and carrying out the repairs will amount to £240; after which outlay the annual expenses—taking into consideration the £30 relinquished by the Secretary, and the saving of £20 a year for hire of rooms,—will not exceed £40, including rent and taxes.

The works being considerably advanced, your Committee have to request an order for £100 on account thereof. The sum of £150 has already been granted for furnishing, &c., which sum it is believed will cover the cost of all that is absolutely for the present required.

Your Committee have again, in reference to their first Report, to recommend the engagement of a messenger, who shall be in regular attendance, keep the rooms in order, be in waiting at all the meetings, and be under the immediate direction of the resident officer. The salary proposed to be allowed is 16*s*. a-week, or £40 a-year. The annual additional expenses of the College, therefore, for house and attendance, will not exceed £80; the casual expenses for coals, lights, coffees, &c., can form but a very trifling addition to this—say £20, and £100 a-year will cover the whole.

Your Committee have spared neither time nor trouble to

carry out the views of the Council with the smallest possible outlay, and the utmost economy will be observed in the future management of the department entrusted to their charge.

E. N. Gabriel,
Secretary to Committee.

December 14*th*, 1853.

On the motion of *Mr. Silvester*, seconded by *Mr. Peach*, the Report was unanimously received and adopted.

The Treasurer was authorised to draw cheques for £100 for the House Committee, and for Twenty Guineas for the approaching Meeting of the Board of Examiners.

Messrs. Silvester, *Ernes*, and the *Secretary*, were named by the *President* as the Committee of Supervision; and the proceedings terminated.

F. R. Silvester,
W. Ernes,
E. N. Gabriel.

Names of gentlemen who passed the Board of Examiners of the Royal College of Veterinary Surgeons on the 21st of December, 1853.

Thos. T. Hudson, Blyth, Nottingham.
Joseph Charles Truckle, Salisbury.
Robert Boulton, Ham Green, Worcester.
William Hutchings, Leigh, Lancashire.
George John Vincent, Ash, Bocking, Suffolk.
Matthew John Harpley, London.

MISCELLANEOUS.

BURMESE RIDING.

You would be much amused to see a Burmese mounted on his pony. They ride on a thick pad without flaps, having small stirrups, in which they put one or two toes at pleasure, with knees well up, using a cruel snaffle, either like a screw or covered with small sharp points. They keep their seat partly by the balance, and partly by holding on with their heels and reins; very seldom being rash enough to take a leap, however small. The ponies are never shod, nor do I think their hoofs are ever cut, at least, I certainly never saw a Burmese in the act.—*Letter from an officer at Pegu.*

THE

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DISLOCATION OF THE PATELLA.

By George Waters, M.R.C.V.S., Cambridge.

At about six o'clock in the evening of the 8th of last August, I was summoned in haste by an innkeeper of this town to visit a horse of his that was supposed to have broken his thigh, whilst being exercised on Parker's Piece by the groom. I immediately proceeded with him to the spot, and found the horse surrounded by a number of people, some of whom (the more knowing ones) were for sending for the knacker, and so despatching him at once.

The animal seemed to be suffering greatly. He was in a profuse perspiration, unable to walk, except on three legs, in consequence of the off hind leg being quite powerless. As he was rather of a vicious nature, I had some difficulty at first in handling him; though after a little coaxing, placing a man on each side of his head, I was soon enabled to satisfy myself that there was no fracture of the thigh, but that the *stifle joint* was the seat of injury. The patella had slipped over the *outer** condyle of the femur. I directly, on ascertaining this, clasped the leg just below the hock with my right hand; and, whilst pulling it forcibly forwards and upwards, used my left in pressing the patella inwards. Proceeding thus for about two or three minutes at most, the bone returned to its natural situation, with the usual sound of a dislocated bone slipping into its socket. The horse walked off immediately free from lameness, to the perfect amazement of the bystanders.

I may mention that the horse had run away with the lad who was riding him, and had thrown him off, and it was in the act of catching him that the accident took place.

Yours, &c.

Corn Exchange Hill;
Dec. 18, 1853.

* The Editor remembers but one case of the dislocation being *inward*.

RUPTURE OF THE PERICARDIUM IN THE HORSE.

By J. A. Cuthbert, M.R.C.V.S., Wakefield.

The following case appears to me somewhat singular: not having met with anything of the kind before, nor having heard of a like one from any other person, are my inducements to send it to you.

On the 8th of December I was requested to see a bay horse, three years old, half-bred, and in good condition, the property of Mr. Charles Exley, of this town. The horse had been out at grass the whole of summer; and, before this morning, the groom in attendance on him had noticed him not so playful as usual; and, as he looked rather dull, he took him up.

On my arrival, I found the following symptoms:—Looking dull, pulse 40, with free and tranquil breathing; extremities natural; eats his food, though not very eagerly. I ordered bran mashes, and gave an aperient.

December 10th.—He was more lively; fed better; pulse and breathing not disturbed. I gave tonic medicine, and ordered a little daily exercise. I told the groom, I thought he would not need my services any more; but, if anything transpired, to let me know.

15th, at 9 o'clock in the evening, I was again called to see the same horse. I was informed that, since my visit, he had been turned out, amongst other young horses, into the straw-fold, for an hour in the course of the day, and that he appeared as frolicsome as the rest; and, moreover, had fed very well up to that time. On going to feed him this evening, however, the horse staggered and nearly fell. At first the man thought he was frightened, but soon saw all was not right. I was immediately sent for. I found him very different from what he was when I last saw him. His pulse was only sixteen beats in the minute, and not perceptible at the jaw; it was the radial artery which I felt to ascertain the state of the pulse; it was very irregular, and was intermittent, beating three or four times very jerkingly, and then stopping for seven or eight seconds, and then again having the same kind of pulsation as before. The extremities warm; the breathing heavy, but not at all quickened; had a disposition to hang his head; no pawing, nor the slightest symptom of pain; fæces rather scanty, but moist: I gave an aperient, and ordered a bran mash.

16th, at 9 o'clock, A.M.—The symptoms were exactly the same. The groom told me that he had eaten his mash, and that, whilst eating, he had staggered sideways, but soon recovered and commenced eating again. I thought there was no chance of his recovery, and, most probably, that there was some rupture and internal hæmorrhage in consequence.

5 o'clock, P.M.—He had not taken any food during the day; the pulse was exactly of the same character, beating from sixteen to eighteen per minute, the heart pulsating with so much force that you could distinctly hear it when you stood behind him; extremities cold; breathing heavy, but not quick; occasionally he gave a deep sigh, which strengthened my former opinion; he had been lying down, but had shown no symptom of pain. He died about 8 o'clock the same evening, whilst hand-rubbing his legs, without a struggle.

Post-mortem examination.—On laying open the abdomen I found the abdominal viscera in no way diseased. After removing the bowels I was very careful in opening the left side of the chest, when, to my surprise, I saw the apex of the heart protruding through a rupture of the pericardium. There was very little fluid in the thoracic cavity; the lungs were very much congested; the heart appeared unusually large; *the pericardium was ruptured* for about eight inches longitudinally, from which the apex of the heart was visible; the interior of the pericardium was covered with lymph, in places to a great extent; and one side of the rupture was very thin, the other very much thickened.

Thinking rupture of the pericardium of rare occurrence, I have sent you the particulars of this case.

I am, Sir,

Yours respectfully.

WAKEFIELD, *Dec.* 19, 1853.

*** We know but of two cases of this extraordinary lesion, and one of them occurred in the ox. The one in the horse happened in a case of tetanus under the care of Mr. Marshall, V.S., York. Mr. Marshall was summoned at 4 o'clock in the morning of the 17th August, 1838, to see a horse, nearly thorough-bred, said to have "the belly-ache." "The case was plain enough: I found all the symptoms of tetanus developed." The horse continued during the day, in spite of treatment, "to get worse." And, on going into his stable at 6 o'clock, p.m., "I heard a *thumping noise*, as if it proceeded from the box at the further end of the stall in which he was, which turned out to be the case: the noise

was occasioned by a strong spasmodic action of his heart." A few minutes afterwards the horse died.

Post-mortem.—In addition to inflammation of some of the abdominal viscera, the lungs were found "gorged with red florid blood," the heart "much enlarged," and "the pericardium ruptured." "There was no blood in the heart." —*The Veterinarian*, vol. XIII, p. 140.

The other recorded case fell to the lot of Mr. Friend, V.S., Walsall. This gentleman was sent for by Mr. Wright, of Stonnall, near Lichfield, to examine a heifer he had purchased, as "warranted sound." Mr. Friend's opinion at the time was, that she had been "decidedly unsound long before the time of purchase." Not being returned, however, Mr. Friend treated her, and at first with some temporary success. In the course of his attendance, however, Mr. Friend "detected effusion into the cavity of the chest," two days after which she died. Among her *post-mortem* appearances "the most extraordinary one was that exhibited by the pericardium." A portion of it was found to the left side of the heart. On the right side there was rupture of it, forming a foramen of 1½ inch in diameter, and it appeared as if the edges of the opening on one side had receded from the surrounding parts. Adhesive inflammation had taken place, and there was a complete duplicature of the pericardium, which was altogether thickened and indurated to such an extent as to present "the appearance of tanned leather." *Vet.* vol. VIII, p. 319.—Ed.

WEAKNESS OF THE LOINS—(KUMUREE).

By J. T. Hodgson, V.S.

Kumuree,* from *Kumur*, the loins, is the name given by the natives of India—to what in England is called chinked in the back, german, &c., *i. e.* when a horse has lost the voluntary power over the hind quarters, shown by the instability in the action of the hind legs, in being carried inwards, and

* The *u* in kumuree is short. I corrected these errors, nevertheless, I am obliged to Mr. Hurford, as I am pleased to see a gentleman, who is resident in India, thus contributing to the advancement of the Veterinary Art, for which, in that country, there are favorable opportunities; and which, from serious illness, I have not had since 1835. These papers are a few notes (saved for my own sons, who, having no chance of appointment, are not in the profession), which may be useful to those having such prospects, and who will see from this, the necessity of learning Hindostanee to acquire the roots of these terms. I have forgotten it.

most so when the horse is going in the circle. In both countries the immediate cause is the same, viz., pressure on the spinal chord within the lumber vertebræ. In England, it arises from injury to this part of the spine, and it may sometimes be the same in India; but the cases in India are more numerous, and are the result of fever, which, in severe cases, leaves an increased quantity of fluid in the ventricles of the brain, and in the spinal canal leading from the fourth ventricle. To convince yourself that this is the proximate cause or state of the parts, you have only to open the frontal sinus of a horse of this description, and, with a spile gimlet, bore a small hole in the bone beneath, over the olfactory nerve; then pass a small trocar or probe into the ventricle or hollow olfactory nerve, the superabundant water will flow out; and upon trying the horse by the afore-mentioned test, you will find you have got rid, at once, of the lameness. I need scarcely tell the operator that by such an operation he may again cause inflammation and fresh deposits of fluid. This, however, he must run the chance of. Many of these horses are not useless, but you are liable to meet with accidents from their use, because the nose of such a horse cannot be raised, but the fluid in the spinal canal is increased; this produces pressure on the extremity of the spinal chord; the horse backs, goes down on its quarters, perhaps on the side, and, if in a gig, the shafts are broken. At auction, you may go to look at the age of such a horse, and down he goes upon your friend, who, wishing to purchase, is at the same time admiring the beauty of the quarters. A bold rider will take leaps after hounds with such a horse, sell him to a spooney, who the next day, in attempting to lead this horse over a leap, will see him sit down like a hound. I have always considered I was indebted to Mr. Sewell's kindness in having particularly pointed out this canal, for my knowledge of the proximate cause of this weakness of the loins (kumuree). It will be seen, from what is stated below, that Mr. Moncroft considered it the effect of deposit, but he never explained where or how it produced pressure; and his assistant, Mr. Gibb (both were surgeons), said they could not, on post-mortem examination, discover anything to account for this loss of voluntary power, although they knew from the effect it was from pressure of some deposit.

When a horse is attacked with this fever, the native will come and say, he is laying down with a stroke of the wind [*hawa* (wind) *mara* (stroke) *geeah*]. The symptoms of brain affection are very evident, from the extreme irritability, prostration of strength, great heat of skin, redness of the con-

junctiva, the hard and frequent pulse; however, as far as my experience, delirium does not ensue, or what is commonly called mad staggers; and when a horse recovers from mad staggers, the effect is not, as I have ever heard, weakness of the loins, as it is frequently the result of this fever, which is endemial. Horses in particular localities are most subject to it, as to the eastward and lower provinces, adjoining the forests under the Himala mountains; thus it was prevalent at Poosah stud, in Tirhoot, also at Palamcotta. In the north-western provinces, as the studs at Haupper, Meerut, and Hipar Ferozch, Province of Delhi, it was not so. I was only three years in Calcutta, I shall therefore give in his own words Mr. Moncroft's treatment of this fever, as he had more experience of it than myself.

"1st. In suddenly withdrawing as much fluid from the vessels as the system can possibly bear, by bloodletting to fainting, immediately after the attack, and repeated, as frequently and largely as can be done, within the first four or five days; following it up by gentle purging, kept up for six or eight days; and by determining the circulating fluids as much as possible to the surfacé of the body, through preventing the escape of the natural warmth, by covering the horse with blankets. The principal objects of procedure are to arrest the progress of inflammation and *deposition*, and to increase that of absorption. In aid of these means the horse should have no more food than may be sufficient to prevent the animal dying from exhaustion."

Now any student reading this will understand that, when he meets with this fever, he must act with promptitude. He can, at his leisure, reflect on the predisposing and exciting causes. In this I will endeavour to help him. He will most likely be told, as I was, of a whole troop of horses having a stroke of the wind at Palamcotta, in one night; and this might have been true. I have not been resident in such places. You have only to consider the extreme heat of the climate, the indolence of Europeans at such times, the less use of horses, while at the same time they are frequently still as high* fed as in the colder season, when in more work; the alternations of cold and heat during the periodical rains, to which horses are wholly or partly exposed; regular cavalry in some parts of India not having stables, irregular cavalry (excepting officers, some of whom have many horses and several men) do

* When I went to India, cavalry horses had full rations all the year round, it was afterwards diminished by Government order, in the hot and rainy season, with a saving of many lacks of rupees per annum. At studs, the colts are highly fed.

not use stables. I preferred cold water affusion in fever. I did not like counter-irritation in this climate, till I had reduced the fever, when a blister in the head is, of course, a means of cure.

WORM IN THE EYE.

(By the same.)

Worm in the eye is endemial at the same places where horses are found with weakness of the loins (kumuree); but I saw no necessary connexion between them, for horses from whose eyes I have extracted worms, have not had kumuree. That a worm in the brain would produce inflammation, may be true, but there is no proof of it having been found. How the worm gets into the eye, no one has yet discovered; sometimes the worm is larger than at other times, and certain it is that its presence is immediate, as shown by opacity of the cornea, which its movements immediately cause to begin. The most likely way of entrance is by the optic nerve; but, as the same worm is found in other parts of the body, mostly under the peritoneum, it no doubt can make its way through the tissues. I have found the same worm among the muscles in smelts of the Elbe, and there are cases in the *Veterinarian* of its being found in the eye of oxen in France. When your native groom comes and says, the horse has worm in the eye [*upna* (your) *zora* (horse) *ke ank* (eye) *me keerah* (worm) *hy saib*], it is of no use waiting to consider how it got there, as the cornea, now transparent, soon becomes opaque, and then you are not able to see whether or not you have been successful in its extraction. You should guard a small lancet by wrapping tow nearly to the point, or provide, what is better, a small trochar, with which puncture the transparent cornea at the upper canthus; to do this, I prefer casting the horse, and holding the nose upwards. The worm will escape by a very small opening. When the cornea is opaque, spread a cloth, so that you may be able to find the worm and know that it is extracted. Covering the eye with a cloth wetted with cold water is the only after treatment required. If the worm be not extracted, the loss of the eye is certain to happen; therefore, if you should fail, introduce a small hooked instrument, and extract the worm.

I sent one worm from Calcutta in 1822, which was in the Museum at the Veterinary College.

LAMINITIS.

The late Jno. Field's Account of Laminitis.

(*Taken from his Posthumous Veterinary Records.*)

CAUSES AND SYMPTOMS OF LAMINITIS OR FOUNDER.

This disease may be occasioned either by severe work on dry hard roads, or by *inflammation of the lungs, &c.*, whereby, in the former instance, it arises from excessive friction between the sensible and horny laminæ, while in the latter, *from the animal constantly standing, an undue and continued stress is laid upon that part.* The symptoms are, a hard, strong, and frequent pulse, the animal expresses great pain, and blood sometimes oozes from the coronet, attended with a sinking of the coronary ligament. If the fore feet are affected, he extends them forward, and brings his hind legs under his body, to support the weight. If the disease is in the hind legs, he stands on his toes, bringing his fore legs to the centre of gravity. This complaint is accompanied with great heat round the feet, accelerated respiration, and sometimes sweating.

Should the symptoms continue, there is an effusion of coagulated lymph or blood between the sensible and the horny laminæ, in consequence of which the coffen bone descends upon the sensible and horny sole, the sole becomes convex, and the front of the hoof is depressed in the centre, or rendered more oblique.

*** To the above, we annex two letters on the subject, received in answer to queries sent by us.

To the Editor of The Veterinarian.

Dear Sir,—I fear I cannot give you much information on "Laminitis," my experience on that disease having not been great. It is rather a rare disease in country practice. I only saw one case during my apprenticeship, and that was in the fore foot of a miller's horse. The real cause of it I cannot say, but most likely it was brought on by over action in the feet, the animal being in a plethoric state or overgorged at the time.

I recollect one case, in a half-bred mare, that was put to a little extra pace in fetching a physician. This was in both fore feet. I cannot say there was pneumonia in this case,

although there was laborious respiration. I think otherwise. It was "idiopathic" laminitis.

I recollect another case in a cart-horse. He broke loose in the night, and ate a large quantity of oats, and in a few days after, had laminitis; but it was not to say severe.

I have also seen *chronic* cases in indolent, fat cobs and ponies, which were ultimately obliged to be destroyed for having become pumiced-footed.

Cases of pneumonia are not so common now as they were formerly; and I cannot say, although I have seen hundreds of cases, *that I ever saw a case of laminitis consequent on that disease.*

I have also seen a vast number of cases of enteritis, but I cannot call to mind that *I ever saw a transfer of that disease to the foot, so as to produce laminitis.* Indeed, *chronic* enteritis, in country practice, is very rare; and the acute is often fatal, from the quackery going on before we are called in.

In conclusion, from what I have seen, and what I think, I am more inclined to believe that laminitis is generally "*idiopathic;*" yet that it is *occasionally* produced by some disease or cause in the stomach or bowels. I cannot say, from my own experience, that inflammation is ever transferred from the lungs to the foot, but I am sure that pneumonia is sometimes brought on by laminitis; indeed, the lungs, as you know full well, generally suffer from all inflammatory attacks. I cannot positively *deny* it transference from the lungs to the foot.

Most *authors* agree with you, I fancy.

It is an important point, and we shall hear more about it; but I am inclined to think G. is not *far* wrong. (See "*Vet.*" Vol. xvii, p. 142.)

I am, Sir,
Yours respectfully,
Wm. And. Cartwright.

Whitchurch; *Dec.* 13, 1853.

To the Editor of The Veterinarian.

Dear Sir,—I have always considered that laminitis was one of the sequences of pneumonia, and I have had cases which I considered to be so. Is it because the mucous membranes are principally involved in pneumonia that the conclusion is to be drawn that we are *not to have* laminitis as a consequence. I refer you to the case of laminitis recorded by me in the *Veterinarian*, where it followed an abortion, and

a desperate bad case it was. There could be no mistaking one's eyesight in that case; and if following on an excited inflamed state of *one* mucous membrane, why not on another? At the present moment Mr. Dycer, a Veterinary practitioner of eminence in Dublin, has a case of pure laminitis following on influenza. I acknowledge that the most cases of metastasis I have seen following on influenza are into the thecas of tendons; but it is not universal. And again, how in the name of goodness are we to draw the fine definitions between pneumonia and pleurisy. I acknowledge myself, although I have been at it for a long time, to be at fault; a pure case of pleurisy, after death, in the horse, is rarely or never met with, the substance of the lungs being always more or less diseased; and again, in the present disease of pleuro-pneumonia (influenza), for I can call it nothing else, are not all kinds of structures involved. Have we not serous as well as mucous membranes affected. Is not the membrane covering the heart always greatly thickened and diseased? and, although the disease is more confined than ever I saw it to the substance of the lungs, which is going on to hepatization, yet it is rarely found that the pleura escapes. No, I cannot see that we can make these nice distinctions, although we can tell what kind of membrane the disease *principally* resides in. I consider there is always a complication of diseases both in serous and mucous membranes, in bad cases, although, of course, one may suffer more than the other.

I have just called on Mr. Dycer, and he argues with me about cases of laminitis occurring after influenza, enteritis, &c.: he has seen it frequently. The case I before referred to as at present having laminitis, belongs to a Mr. Hunt, of sporting celebrity, in Dublin. Several of his horses had influenza, this horse among others, and when partially recovered from influenza, he became lame in both fore feet, with the peculiar distinctive marks of laminitis, going on the heels, &c.

Yours truly,
H. J. Gloag.

Dublin; *Dec.* 13, 1853.

LAMINITIS, OR FEVER IN THE FEET; FROM METASTASIS, FOLLOWING PNEUMONIA.

By C. Percivall, M.R.C.V.S., Royal Artillery, Dublin.

The subject of this case was a troop-horse (No. 66) admitted with a sharp attack of pneumonia, on the 7th of May,

1852. The usual remedies were had recourse to, and, towards the end of the month, all unfavorable symptoms had subsided; the horse feeding well, and, I may say, being convalescent, I was about to take him off the sick list, when, on visiting my infirmary stable, a few days afterwards, the farrier reported that the horse was lame, and appeared in great pain. On proceeding to the stable I found him suffering from fever in the feet, and instantly had blood taken from the toes; administered a brisk cathartic; applied poultices to the feet, blisters to the coronets, &c., but without any benefit, for he continued to get from time to time worse. The soles were sunk, and I was under the necessity of having him destroyed on the 19th of July following.

The *post-mortem* appearances were hepatization in the right lobe of the lungs, with adhesions. The coffin bones of both fore-feet were found displaced, and nearly protruding through the sole; as may be seen by the preparations of the feet, still in my possession.

Portobello Barracks; *January* 13, 1854.

CASES OCCURRING IN AFRICA.

By W. Thacker, V.S., 12th Lancers.

Dear Sir,—I send you in rough copy four cases. I have not attempted to put them in any form, fearing I might not succeed: in fact I question whether you will think them worth perusal, much less publication. I have given the symptoms as they appeared in each case, and also the *post-mortem* appearances. We have many difficulties to contend against in this country, with regard to the treatment of disease; our stabling being nothing more than open sheds, and no boxes nor separate stables where sick horses might be placed by themselves; and the sudden changes of weather from excessive heat to extreme cold and rain, cuts them up fearfully. *Post-mortem* examinations have sometimes to be hurried through or not completed; for the carcases having to be removed about two miles from the cantonment, the examinations must be complete before dusk, or else the vultures, wolves, and jackals complete it for you; so that if death does not take place until mid-day, or from any cause the carcase cannot be removed to the charnel-house until late, these examinations must necessarily often be very imperfect. An absurd thing occurred to me, with regard to one of my own horses that died. He was sent to the usual cemetery, I followed in about an hour; and, lo-and-behold! all that remained

were the bones, skin, and ordure. The waggon-people had conveyed the carcase to the spot, and there left it; the scavengers were quickly at work, and left very little wherewith to satisfy my curiosity. But I have digressed. Returning to the subject of publication, do what you may think proper with them; I have given them concisely, without much comment or remark. The first and second cases I have looked upon as *morbillous disease;* the third, as one of *mad staggers;* and the fourth, one of complication, viz., *enteritis, with intestinal rupture;* and, may be, *diaphragmatic* also. Should you think any of them worth publishing, be good enough to correct any errors I may have committed through ignorance or carelessness.

Case I.—Purpura.—Morbillous Disease.

A dun horse, eight years old, running at grass for five or six hours daily, exhibited, on the 29th of December 1852, considerable swelling of the left side of the head and face, with pustular eruptions; palpebræ tumefied; enlargement of the submaxillary lymphatic glands; the general health but little disturbed. Two drachms of aloes, with half a drachm of calomel, were given, and hot fomentations employed to the head and face. The following day, the pustules had become more numerous; several, containing matter, were incised; the appetite was impaired; the bowels somewhat inactive. Half a drachm of calomel was repeated every eight hours, until the bowels responded; fomentations were continued, and a solution of nitre applied to the incised pustules. In a few days, the tumefaction subsided; the sores assumed a healthy character, followed by the healing process; the appetite was restored, and the animal regained his usual health.

On the 10th of the following month (the weather having suddenly changed to wet and cold) lameness in the off hind leg appeared, accompanied by extreme pain; some slight swelling also about the hock was observable. The pulse had become quickened and small; the respiration hurried; the mucous membranes injected. There was a total loss of appetite, a staring coat, and the animal presented a most dejected countenance. Two drachms of Pot. Nitras, and half a drachm of P. Ant. Tart. were administered in ball every eight hours, and fomentations to the hock of the affected limb employed. On the following day, the hind leg was much swollen; œdematous swelling appeared under the chest; and innumerable pustules were upon the body, arms, and thighs. A thick yellowish discharge flowed profusely

from the nostrils, and the schneiderian membrane presented, upon its palatine surface, several vivid red patches. The pulse, 60 pulsations per minute, and small in character; respiration hurried, but not laborious; the alvine evacuations coated with mucus. The medicine was continued until the 13th; the symptoms gradually becoming more aggravated; the pulse and respiration more hurried; the tumefaction increased, and the œdema extended; until the 15th, when death ensued.

Autopsy.—The abdominal contents were healthy; a small portion of the right lung emphysematous; the endocardium of the right side of the heart presented a slight blush of inflammation. Upon making a section of the head, the membrane lining the sinuses exhibited intense inflammation, and was covered with innumerable miliary tubercles of a greyish cast; the membrane of the right side possessed a deep red colour, almost purple. The schneiderian membrane of the nasal fossæ, near their external openings, presented fewer tubercles, but several irregular scarlet blotches of about an inch in circumference; similar blotches, but in a less marked degree, were seen in the laryngeal membrane. No ulcers existed.

Case II.—Purpura.—Morbillous Disease.

A bay horse, six years old, on the 10th of August, 1853, was observed to be dull and off his feed; pulsations 76 per minute, and small; breathing slightly accelerated; extremities warm; conjunctival and schneiderian membranes injected; infiltration into the scrotal sac; and inaction of the bowels. Aloes and calomel were given; the calomel repeated every eight hours in half drachm doses. On the following day, the fæces were pultaceous. A scruple of opium was combined with the calomel, and given every eight hours as before. On the 13th a sero-sanguineous discharge flowed from the nostrils; breathing more accelerated; visible mucous membranes assumed a livid hue; the scrotum more enlarged; the lips and face become tumefied; and the body and limbs covered with papillary eruptions. These symptoms gradually become worse; the pulse more frequent, breathing painful, the nasal discharge increased, the mucous membranes become purple; and death on the 15th.

Autopsy.—The colon inflamed. Lungs healthy; the lining membrane of the right ventricle and auricle of the heart of a deep red colour; left side, normal. The membrane, lining the sinuses of the head, presented intense inflammation, with

numberless miliary tubercles, which, upon being scraped with a scalpel, exhibited small roughened depressions of a pale colour. The fauces highly inflamed, with similar tubercles, but less numerous. No ulcers could be discovered.

It may be necessary to state that, at the time each of the accompanying cases occurred, glanders and farcy existed; and these might have been looked upon as glanders in an acute form; but the absence of ulceration and corded lymphatic vessels not being discoverable in the vicinity of the parts tumefied, led me to a different opinion.

*** Mr. Thacker is correct in his pathological observation; though, ordinarily, the cases would have been pronounced "glanders and farcy."—[Ed. Vet.]

Case III.—Mad Staggers. (Phrenitis.)

A bay gelding, seven years old, running at grass daily for five or six hours, was observed for a few days to be dull, hanging his head when in the stable; though continuing to eat whilst out at grass. On the evening of the 14th of January, 1853, the dulness had increased, and the animal evinced an objection to move. Upon examination, the respiration was found to be tranquil; pulse 40 per minute and full; the conjunctival membranes turgid, and of a livid hue; and the bowels constipated. Was bled largely, and a powerful cathartic was administered. On the following day, he exhibited signs of restlessness; mouth hot; pulsations 40 per minute, and full as on the previous day; breathing still undisturbed; the upper lip œdematous. Bleeding was again had recourse to, and Ext. Belladonnæ in solution given every four hours, and used also in enemata. In the evening the symptoms had become fearfully aggravated; the pulse quickened; respiration accelerated; much restlessness; the head occasionally thrust against the wall; the body bedewed with perspiration. The left temporal artery and jugular vein were opened, and allowed to bleed *ad libitum:* the pulse being examined at short intervals. But no relief was afforded. The restlessness proceeded to violence; pawing, rearing, rushing backwards and forwards, as far as the means of restraint would allow; the breathing became stertorous, eyes amaurotic, convulsions, death.

Autopsy.—The chylopoietic viscera were healthy; the stomach and bowels containing an ordinary quantity of ingesta, and in a semi-fluid state. The heart and lungs normal. Upon examining the brain, from one to two drachms of coagulated blood was found situate upon the medulla

oblongata, near the foramen magnum; the superficial vessels of the brain were much distended, and the vascular network of the pia mater strongly defined. The ventricles contained but an ordinary quantity of fluid. The substance of the brain was apparently healthy.

I do not know that this case is in any way interesting; but being of not frequent occurrence, and the *post mortem* appearances tending to confirm the opinion that the meninges of the brain are more especially implicated in this affection, leads me to send it. One question, however, may arise, viz., was the coagulated blood found upon the medulla oblongata, *cause* or *effect?* The latter, I should imagine; if otherwise, the earlier symptoms would have been of a different character.

*** Extravasation of blood cannot be regarded as a very unlikely occurrence in mad-staggers, when it comes to be considered what concussions and contusions the head is subjected to during the phrenitic paroxysm.—[Ed. Vet.]

Case IV.—Enteritis, with rupture of Colon, perhaps of Diaphragm too.

A bay gelding, seven years old, in previous good health, and possessed with endurance, on the 26th of August, 1853, while employed on post duty in the night, made a false step and fell heavily. On the 29th he was attacked with symptoms of cholic, which passed off upon being trotted for a few minutes, and he fed as usual immediately afterwards. On the 5th of September, after returning from water, he had another attack, which likewise quickly subsided. On the morning of the 9th (being now at head-quarters) he was again discovered ailing, presenting symptoms of a more serious character. Pulse small, and much quickened; mucous membranes injected; abdomen distended from tympany; extremities cold; mouth clammy; body bedewed with perspiration. No fæces in the rectum; continuous pain; (a few moments' cessation only occurring, while the animal was on his back;) with an anxious countenance, expressive of intense suffering. An unfavorable and speedy termination was evident. Two drachms of chlorinated lime in water were given, followed by a solution of aloes, and enemas of warm water frequently employed. The disease speedily ran its course; the pulse became imperceptible; cold sweats covered the body; tremors followed; death terminated the scene at two o'clock, P.M.

Autopsy.—Abdominal parietes very tense from inflation.

On removing the viscera, a considerable portion of the colon was found to be gangrenous, with a rupture of six or eight inches in it, in length, the coats around the rupture being much thickened from infiltration. Parts of the small intestines exhibited inflammation. The stomach was distended with food, and contained a large number of bots adherent to its cuticular lining. A small quantity of ingesta had escaped into the abdomen; but no marks of peritoneal inflammation existed. In the diaphragm, situate inferiorly, and on the left side, was an irregular opening of about four inches in extent, whose edges were ragged and attenuated. The gangrenous portion of colon, when *in situ*, passed directly over the opening in the diaphragm. The other viscera were healthy.

Remarks.—The question which would appear to present itself in this case, is, at what period did the diaphragmatic rupture take place? Was it the result of the fall, and connected with the two attacks of spasm, and also with the attack which proved fatal? or was it subsequent to death, caused by the extreme distension of the intestines? The latter is most probable; for, to account for the gangrenous portion of intestine, as connected with the rupture in the diaphragm, strangulated hernia must have existed, or been relieved by rupture of the confined gut, and fæcal matter therefore found in the thoracic cavity, neither being discovered; added to which the lacerated edges of the diaphragm were not in the least indurated or rounded.

King William's Town, Cape of Good Hope;
October 2, 1853.

HYDATIDS FOUND AMONG THE MUSCLES OF A HORSE.

By Samuel Peech, M.R.C.V.S., Wentworth.

Dear Sir,—I have forwarded to you, by railway, a jar containing several globular productions (there were double the quantity), for which I am unable to explain the cause. Several years ago, a carriage horse belonging to a lady in this neighbourhood, received a serious injury in one shoulder, said to be from a violent collision. By treatment the horse was enabled to work in the farm, which he did *very well*. A week or two ago, it was decided that he should be shot, and I requested that the *bones* of the shoulder should be taken care of for my inspection. Two days ago, I received the *muscles* of the shoulder, in consequence of the person who

skinned the horse having discovered these tumours. As the horse did his work well, they appeared to have been quite innocuous. I think the horse was 28 years of age. I hope some of your correspondents may please to make observations on this peculiar case in your valuable periodical.

Believe me to remain,

Most sincerely yours.

ROTHERHAM; *Dec.* 28, 1853.

*** We thank our friend, Mr. Peech, very much, for his present. It manifests his zeal and love for our science; being a rare, though not unique, specimen of *hydatids* (for such his "globular productions" are) found among muscular structure. In the *Veterinarian* for 1848, will be found two cases of the kind, both related by Mr. Vincent. The first was that of a young grey cart horse, in which hydatids were discovered within a cyst under the synovial membrane of the flexor perforans tendon of the fore leg, occasioning excessive lameness: the second, that of a chestnut cart gelding, the property of the same gentleman, Mr. Akerman, of Putney. The horses were the same age, and both depastured together, and were both lame for a long period. In the last case, the hydatids were (lodged in cysts as in the former case) among the flexor muscles, near the junction of their tendons and fleshy bellies. Can Mr. Peech inform us whether his hydatids were contained within *cysts* or not?—ED. *Vet.*

"DRUGGING," *alias* POISONING, CART HORSES.

By JNO. TOMBS, M.R.C.V.S., Stratford-on-Avon.

Dear Sir,—Cases of drugging and poisoning being so prevalent amongst farmers' horses by waggoners, induces me to ask you to kindly record the following case in the *Veterinarian*.

I am, dear Sir,

Yours faithfully.

January 9, 1854.

December 20th, 1853.—I was called out early in the morning to see a bay six-years-old cart mare, the property of a respectable farmer, some miles distant from this town. She was observed to be ill, by the waggoner, at eight o'clock the previous evening, by rolling about, &c. Previous to my seeing her, at half-past six a.m., she had been bled twice, anti-

spasmodics given, and a bottle of ol. ricini. I found her lying down, looking back and rolling, with a dejected countenance, turgescence of tunicæ conjunctivæ, and schneiderian membrane; pulse 85; flatus of abdomen; ears and extremities cold. Exhibited ʒi of barb. aloes in solution, with opium; applied actual cautery to the region of abdomen, &c.; ordered legs to be bandaged, and bloodletting to be repeated; and the administration of opium; and application of mustard embrocation to the belly, if the pains should become intense. At six p.m. I visited her again, when she was in an apparently sinking state. Her pulse was imperceptible; breathing so gentle as to be scarcely visible; belly swollen. I was informed that she was in the most excruciating pain about noon, had rolled on her back, and perspired profusely. The bleeding I recommended relieved her, together with the opiates and embrocations. She has voided no fæces since last night, being now like a man helplessly inebriated, from the sensorium and nervous system being depressed. I conjectured she had been *drugged* by the carter. He was accused of the same, but stoutly denied it; as is the invariable custom of men who have charge of horses. Exhibited brandy and water, after which she rallied. Afterwards gave sol. aloes, ʒij; and hyd. sub., ʒss; every two hours; and enemas, which have been used from the beginning of her illness.

21st.—Has been in little pain during the night. Pulse 90, and weak; eats a little hay, and drinks gruel; has voided two lots of excrement, not particularly hard; less tension of abdomen; legs and ears warm. Discontinued the medicine, and gave plenty of gruel.

22d.—Pulse 85; voids fæces; hangs her head down; uneasy at times, and looks back; and walks round the stall; eyes staring, and much reddened; nasal lining of purple hue; sub-maxillary glands enlarged; eats a little, and drinks large quantities of gruel. To take vegetable tonics.

23d.—Purges freely; body much thinner; pulse 90; extremities warm; hangs her head down to the ground; does not lie down; looks back, and is evidently in pain at times; drinks gruel with eagerness. The case I conclude now to be one of poisoning, as the obstruction in the bowels is removed. Had it been gripes or enteritis, it would have terminated ere this. Give ast. et veg. tonics.

24th.—Bowels still much relaxed; pulse 92, and weak; respiration accelerated; swelling of sub-maxillary gland disappeared; effusion of serum under abdomen from actual cautery; has got very thin. Give vegetable tonics with starch gruel.

25th.—Respiration very quiet; pulse 95; breath very offensive, from congestion of the lungs; is in no pain; drinks gruel as before. The case is now hopeless.

26th.—Pulse 100; dilation of nostrils; great secretion of saliva, which falls from the mouth to the ground; is very thin and emaciated; breathing laborious; ears and extremities cold; breath stinks unbearably; during the night I hear she rolled about and sweated tremendously. Having no hope, I gave no medicines.

27th.—Dead.

Post-mortem appearances.—Lungs congested, and in some places almost putrefied. Villous coat of stomach in some places separated from the muscular, and floating in the contents of the stomach; and the villous coat generally inflamed, but particularly *in patches;* marks of ulcers, filled up with new matter, very much thickened, showing the effects of repeated drugging. It was at first supposed that bean chaff had caused the disease; that, however, proved erroneous, since, when the bowels were freely acted upon, no amendment took place; besides, after death, the bowels were found healthy. The stomach and its contents were analysed, but traces only of iron could be ascertained: the animal living so long, and purgatives and large quantities of gruel being given, removed the greater portion of the noxious matter out of the stomach, therefore analysation could not be satisfactory.

P.S. I forwarded some cases of pleuro-pneumonia in cattle to the *Veterinarian* the beginning of last year. About the middle of summer several heifers on the same farm were attacked in an open field, all of which recovered. The worst were treated by me. My plan of proceeding was moderate bloodletting at the beginning; the whole region of the thorax cauterized, and then blistered; before burning, medicated tape setons were inserted. The medicaments were, first, laxatives; then febrifuges; subsequently tonics. The breathing was much embarrassed for a month; after which, gradual amendment was perceptible, and in ten weeks there was perfect recovery. I attribute great good to the cautery.

SCROTAL HERNIA.

By G. M. Marshall, V.S. Vet. Establishment, Dungannon.

Sir,—If you think the following case of scrotal hernia worth inserting in 'The Veterinarian,' it is at your service.

Hoping to see a great increase of contributors to your valuable periodical for the present year,

I remain, &c. &c.

In the beginning of October, 1852, I was requested to see a brown entire horse, aged, the property of Mr. Joseph Sevenorton, farmer, near Coagh. On examining the horse, I found it was a case of *scrotal hernia;* and, as I had seen the horse very frequently during two or three seasons without any appearance of hernia, I naturally inquired if he (the owner) could account for it in any way. He told me that the only cause he knew was, that he had been to the neighbourhood of Lurgan during the season to a mare; that both animals were taken into a field adjoining the Ulster Railway, where, in the act of covering her, one of his hind legs slipped down into a ditch, and that he appeared rather dull for some time after; and that the swelling continued to increase in volume, which hangs, at this time, nearly *down to his hocks.* The hernia is on the left side. I warned him of the amount of danger attending such a case; at the same time, that he would have to be castrated, and, if operated on by me, that I would not be responsible for the result. Having given him so little encouragement, he took the horse away, and I heard no more of him until the 6th of November, at which time he brought him up to the house of a relation in this neighbourhood, determined to have him operated on at all hazards, as he would not see him about his place any longer in the state he was.

On the 8th I operated, *à testicule couvert,* on the affected side, the other testicle being removed in the ordinary way. I then inserted two strong metallic sutures above the clam, as close to the abdomen as possible. The horse was now allowed to rise. I ought to have stated that he was starved, or nearly so, for forty-eight hours before the operation. The after-treatment consisted in giving a dose of physic, scarifying the pendulous sheath, &c. and keeping the hind parts raised in the stable. The clam on the left side remained on until it sloughed off; the metallic sutures were not removed for a considerable time after. The horse perfectly recovered, and has since been sold, possessing a scrotum of the ordinary size.

G. M. M.

January 14, 1854.

*** A very interesting and judiciously managed case.—Ed. *Vet.*

VETERINARY JURISPRUDENCE.

UXBRIDGE COUNTY COURT.

Edlin v. *Goddard.*

This was an action to recover £8 19*s.* 6*d.* for an alleged breach of warranty. Mr. Carter (instructed by Mr. S. Gardiner), appeared for the plaintiff, who lives at Ryson, and Mr. Sleap for the defendant, who is an omnibus proprietor.

The facts are fully developed in the following evidence:

Thomas Edlin, examined by Mr. Carter, stated that about the middle of October last, he agreed to purchase a horse from the defendant, for the sum of £7 15*s.*, for which he paid £1 deposit, and the remainder subsequently. Suspecting that the horse was glandered, he applied to the defendant to give him a warranty; to which the latter replied, that he would if he would give him £10, but at the same time said, if the horse was glandered he would return the money. He kept the horse for about a fortnight, but it did not improve. A veterinary surgeon said he was glandered, and witness again endeavoured to induce the defendant to take the horse; but he would not do so nor pay him anything. He had the horse in his possession until it was killed, but it was of no use. He paid half a guinea to the veterinary surgeon, and had to pay for the cost of the animal's keep ever since he had taken him from the defendant till he was killed. Defendant told him that if a veterinary surgeon said the horse was glandered, he would return the money.

Cross-examined by *Mr. Sleap.* Was not aware that any person was present when he purchased the horse, or when he asked for the warranty.

Mr. Henry Hancock, veterinary surgeon of Uxbridge, stated, that a horse had been brought to him by the plaintiff which was glandered. He could not, however, state the duration of the glanders. A horse under this disease was considered incurable.

By *Mr. Sleap.* It was possible, but not probable, that the horse might have taken the disease in a fortnight.

Henry Cowday examined by Mr. Carter. He lived at Uxbridge Moor, and was acquainted with the defendant, who was an omnibus keeper. Saw the horse about two months previously at Shepherd's Bush, tied behind a cart going to Mr. Goddard's. He saw the horse afterwards at Mr. Edlin's, and from the symptoms it exhibited, he had no doubt the animal was glandered.

Mr. Sleap contended that there was no case made out by

the plaintiff. The horse was killed, so that it could not be produced; and his client had no notice of the horse being about to be killed.

The *Defendant* was examined by Mr. Sleap. He stated that he disposed of the horse to the plaintiff for three loads of hay at 30*s*. each, and the remainder was to be paid in money. He denied most strongly that he had said he would give any warranty, but when the plaintiff complained that the horse was diseased, he certainly then said he would give him back the money if a veterinary surgeon said the horse was glandered; but as the plaintiff detained the horse for some time afterwards, he refused then to take it back. The horse was sound at the time he sold it, with the exception of being broken-kneed.

Cross-examined; the plaintiff gave him the money instead of the hay. When he made the bargain with the plaintiff, he was perfectly sober. Repeated that he had not given any warranty with the horse; on the contrary, he distinctly refused to do so. Bought the horse at Paddington, London, of Mr. Wall, cornchandler. He gave some hay for the horse. He bought two horses at the time, one of which was blind. He paid for both in hay, and valued that hay at £10. The blind horse died. The reason of him selling plaintiff's horse was, that the animal had broken its knees, and was too weak for its work.

Mr. Brasier examined by Mr. Sleap. Was the landlord of the Angel Inn at Hayes; was present when Edlin came to pay defendant the money for the horse, on which the defendant said if he was not satisfied with the horse, he should have his money back then; but he heard him state distinctly, that he would not give the plaintiff any warranty. Edlin afterwards returned with the horse, in company with other persons, and he was "fresh." He and his party began to abuse Mr. Goddard.

Cross-examined by Mr. Carter. Had some knowledge of the horse; and should have recommended his own brother to have purchased it at the time it was sold.

Mr. Whittington, farmer, examined by Mr. Sleap. He was acquainted with the horse some time ago, and it was then in good condition. He could not state the exact time when he saw the horse last.

Mr. Carter addressed the Court at some length, and contended that nothing in the evidence had been elicited to impeach the statement of the plaintiff. Though there was no special warranty given, the circumstance of the horse being diseased, was sufficient to vitiate the sale.

His *Honour* said, the plaintiff should not have kept the horse for an indefinite period.

Mr. Carter said that if his Honour had any doubt on the matter, he would sooner his client would take a nonsuit.

The *Plaintiff* was accordingly nonsuited, and ordered to pay the costs.—*Windsor Express.*

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

On Hysteria in the Mare, with Illustrative Cases. By W. Haycock, V.S. and M.R.C.V.S. London; Aylott and Jones, Paternoster Row. Pamphlet, 8vo, pp. 27.

Mr. Haycock, the author of the pamphlet upon our table, is sufficiently known to the readers of this journal from some excellent papers he has sent to the *Veterinarian*, as well as from the recent publication of a work on Homœopathic Veterinary Medicine, as an able and talented member of our professional body. He is a scion of the Scotch Veterinary School, and one that reflects credit on an institution from which have emanated many highly industrious and deserving veterinarians. Few men observe disease with a keener eye, none record it with more minute and faithful accuracy, than Mr. Haycock; while, in description, he stamps his observations with a verisimilitude which renders them reliable as authority, wherever we may happen to meet with them. Before his conversion to homœopathy, we were now and then favoured with communications from him; we regret their loss, and regret more still the cause which has deprived us of them.

There appears no valid pathological reason why hysteria should not invade the animal portion of creation, unless it be in that form in which the *fons et origo* of the disease be referred to the *mind;* though, on the highest modern medical authority, it is now said to be rather ascribable to the "nervous influence endowing the *generative organs of the female.*" If certain

animals, as contra-distinguished from human beings, be obnoxious to hysteria, then would it appear to be solely on this latter account, and then may we expect to see it attacking such species and individuals among them as are, by art, subjected to a treatment likely to engender complaints of the kind. Taking mankind in general, the horse and the dog are the animals peculiarly cared for and fostered by us. They live in houses equal to our own, the latter even in the same house with ourselves; they are (the horse at least is) comfortably clothed, and they are fed with the choicest provender, to which combined causes it is that we would, we repeat, ascribe their liability to hysteria; supposing it be admitted, as matter of demonstration, that these animals become, on occasions, hysterical patients. For our own part, we must, *in limine*, confess our *practical* unacquaintance with the disease described by Mr. Haycock, at least as appearing to us under the appellation he has given to it; this may possibly be owing to our practice having been chiefly among military horses; such not being, with few exceptions, clothed at all; neither are they kept in warm stables, nor highly fed on provender of the best quality.

In the pamphlet before us, "On Hysteria in the Mare," Mr. Haycock stands or falls, as to the presumable nosological truth of his observations, on the basis of *matter of fact*. He puts forth his cases, the foremost in his work, detailed to every appearance, in his usual garb of accuracy and truthfulness; from them he draws his own inferences; and then leaves, nay, invites, his reader to come to his own conclusions on the subject. His own "remarks" on them, placed in *finale* in his pamphlet, are as follow:

"Remarks.—I have now presented to the reader an account of six cases of a most singular malady. The cases here given are the whole of the kind which have ever come under my notice. I have detailed the facts of each case exactly in the order in which they occurred, and for their accuracy and truthfulness I vouch in every essential. In the treatise on Veterinary Homœopathy which I published some timo ago,* I gave the first account of this affection ever

* See my 'Elements of Veterinary Homœopathy,' p. 285; London, Aylott and Co.

presented to the veterinary surgeons of this kingdom. Since the appearance of the treatise in question, other cases of the same kind have come under my care, which have enabled me to more fully comprehend the general character of the disease; and I now submit to the reader every fact which I am in possession of with regard to it. To the inquiring veterinarian, I trust these facts will prove of value, inasmuch as they may enable him to diagnose a disease, the existence of which has hitherto been entirely overlooked by our best and most observant writers upon equine pathology.

"I have named this disease HYSTERIA from the very close resemblance which it bears to the malady in women, and also from the fact of its constant occurrence in the *mare*. To prove this more fully, and, in fact, I may say beyond dispute, I will quote from Watson, Copland, and others who have written upon hysteria, and thus enable the reader to judge as to whether I am right in the conclusions I seek to establish. 'I need not tell you,' remarks Watson,* 'that hysteria is almost, though not exclusively, confined to women. It occurs under a great variety of forms, but they may all be reduced, for convenience of description, to two. In the first of these the trunk and limbs of the patient are agitated with strong convulsive movements; she struggles violently, like a person contending; rises into a sitting posture, and then throws herself back again; forcibly retracts and extends her legs, while her body is twisted from side to side; and so powerful are these muscular contortions that it often is all that three or four strong persons can do to restrain a slight girl, and prevent her from injuring herself and others. The head is generally thrown backwards, and the throat projects; the face is flushed; the eyelids are closed and tremulous; the nostrils distended; the jaws often firmly shut. If the hands are left at liberty she will strike her breast repeatedly and quickly, or carry her fingers to her throat, as if to move some oppression there; or she will sometimes tear her hair, or rend her clothes, or attempt to bite those about her. With all this her breathing is deep, labouring, irregular, and the heart palpitates. After a short time this violent agitation is calmed; but the patient lies panting and trembling, and starting at the slightest noise or the gentlest touch; or sometimes she remains motionless during the remissions, with a fixed eye; till all at once the convulsive movements are renewed; and this alternation of spasm and quiet will go on for a space of time that varies considerably in different cases.'

* See 'Watson on the Principles and Practice of Physic,' vol. i, p. 683.

"In the same lecture Dr. Watson again observes, 'The symptoms I have been enumerating belong to the nervous system, and indicate great derangement in the functions of animal life. In the other of the two forms to which all the various modifications of the attack may be reduced, the principal marks of disturbance are referable to some of the viscera. The patient experiences a sense of uneasiness in some parts of the abdomen, frequently towards the left flank.

* * * * *

The abdomen becomes distended with wind; loud rumblings and sudden eructations take place, and there is much palpitation of the heart.

"'After the paroxysms these patients commonly void a large quantity of limpid pale urine, looking almost like water, and this is sometimes expelled during the fit.'

"The account furnished by Dr. Copland, in his Medical Dictionary, article 'Hysteria,' of the *convulsive** form of the disease is so clear and so closely allied in many respects to the cases which I furnish, that I shall also quote what he says with regard to this matter.

"'When hysteria,' says the doctor, 'assumes a *truly convulsive** form, the trunk of the body is writhed to and fro, and the limbs are variously agitated.

* * * * *

Sometimes the trunk remains stiff, whilst the arms and limbs are tossed in every direction. The muscles of respiration participate in the struggle, and the breathing is effected slowly, laboriously or deeply and spasmodically, often with deep sobs and constriction in the situation of the diaphragm. During the struggle the patient sometimes bites her arms or hands, or even the bystanders. The abdominal muscles are tense or irregularly constricted; the belly, especially about the naval, is often drawn inwards, and the sphincters are firmly constricted. The action of the heart is increased with the severity of the convulsions. In some cases, however, it is not much, if at all, accelerated; in others, it is very irregular and unequal: and in all, *the temperature is usually reduced, especially in the extremities, at the commencement of the attack.*

* * * * *

Upon recovery from these states, the patient often experiences *catchings, spasmodic contractions of the extremities,* shudderings, or convulsions of short duration, accompanied by *forced or irregular respiration.*'

* These *Italics* are ours.—Ed. *Vet.*

"Again, the same writer observes, 'Hysteria may simulate paralytic affections.'

* * * * *

"'The paralytic form of hysteria *is sometimes connected with spasm*, inability to move being attributable rather to this than to loss of power. This affection may occur in a single limb or in both; it may even closely imitate paraplegia.'

* * * * *

"'*Pain in the dorsal or lumbar vertebræ with tenderness upon pressure of the spinous processes* is often complained of by females of a delicate constitution; and although it may exist independently of hysteria, yet it is frequently associated either with it or with uterine irritation.'

* * * * *

"'Hysteria may be manifested by pain in various parts of the abdomen, or in the abdomen generally. When it extends over the abdomen, it is sometimes accompanied with excessive tenderness, and great inflation of the bowels. It may then be mistaken for peritonitis.'*

"Such are the facts upon which I found my opinion with regard to the identity of my cases with the disease 'hysteria' in woman. To me the similarity appears so close as to warrant my concluding that this identity is satisfactorily established. The similarity, I contend, is as close as that of any other equine affection to that of its prototype in man. To prove this more fully, however, I will compare the more prominent symptoms of each case with the quotations which I have selected. The principal symptoms in case I, were, *violent convulsive or spasmodic movements of the limbs; excessive perspiration; hot skin; difficulty of breathing; the ejection of large quantities of bloody urine; tonic spasm of the gluteal muscles, and muscles of the back; clonic spasm of the diaphragm; pain in the left side, with inability to rise upon the feet.* In case II, *in* addition to the above, we have a *constricted state of the abdominal muscles*, together with a more marked state of *clonic spasm* of the costal and diaphragmatic muscles. In case III, the disease was not of so violent a character, but still we find the general symptoms present, together with wildness of look, and a propensity *to bite the wood-work of the stable*, and other articles contiguous to where the animal stood. In case IV, the eye presents a dejected look, with *coldness* of the posterior limbs at the time when the skin in other parts was hot, and perspiring in patches. In case V, we find the pulse at the onset of the attack to be suppressed; the respirations

* Copland's Medical Dictionary, article 'Hysteria.'

of a convulsive or spasmodic character; the nostrils dilated; the look wild and anxious, with loss of motive power in the right hind limb; together with the entire absence of spasm of any of the voluntary muscles. Also *reduction of temperature* in the affected limb; and suppression of urine; then, as convalescence becomes established, we observe the "*muscular catchings and spasmodic contractions*," *with* "*irregular respiration*," which is so clearly alluded to by Dr. Copland. Indeed, throughout the identity of the two diseases is so remarkably close, that to me it appears a superfluous labour to insist further upon it.

"One of the principal points of difference, however, between hysteria, as manifested in the human being and the mare, is, with regard to the state of the urinary organs. In the former, according to the authorities which I have quoted (for I make no pretence to a practical acquaintance with human disease myself,) it appears the disease usually commences with an abundant secretion of limpid urine; while, in the latter, the secretion of urine is very abundant, but is loaded with blood, seemingly venous, and which, as a matter of course, causes the secretion to be dark or coffee-coloured; nevertheless, more extended observation may lead us to the knowledge that this abundant secretion of limpid urine may be one of its attendant states; in fact, it cannot be expected that six cases of so important a disease will furnish us with all its pathognomonic phenomena."

Let us test our author, as to the *identity* of the disease he has presented us with six cases of, a little closer, taking for our prototype and exemplar human pathology, as far as it seems legitimately applicable to animal medicine.

If Mr. Haycock's disease anywise assume the hysterical character, it is when hysteria puts on the garb of the irregular and anomalous disease, leaving all but untouched and undisturbed the generative organs. Dr. Copland's pathology of hysteria is, "That hysteria arises from the state of the organic nervous influence, *endowing the generative organs* of the female, and that a similar state of the *sexual organs of the male* very rarely occasions it," &c. And Dr. Elliotson, in his 'Lectures on the Principles and Practice of Medicine,' says, "This (hysteria) is a disease which occurs much more frequently in females than in males; and in females particularly during their *sexual* period, if I may so call it," &c. "Any

woman may have hysteria if she can have but *emotion of mind* enough. Mr. Haycock's cases owe their origin to neither mental affection nor to any excitement or abnormality of the sexual organs. In only one of the cases (case IV) were any symptoms manifested of the mare being "in use for the horse:" the others are nervous, convulsive, or spasmodic affections, which, though called "hysteria," were wanting in some important requisites to make up that affection, properly so called; such as no choking and *globus hystericus* (wanting perhaps, from the circumstance of the horse not being an animal capable of vomition), no pale, limpid urine; only a *single one* instead of a succession of fits; a *fatal* disease; although "simple and pure hysteria," as Dr. Copland says, "is rarely or almost never fatal." But what appears to us (allopathists) most extraordinary of all, is, that the two cases that died were treated *allopathically*, or, in the language of our school, *secundum artem;* whereas, the four horses which recovered took *homœopathic* doses of belladonna, aconite, mercurius, pulsatilla!" &c.

To show how difficult pathological writers, even of great repute, find it to frame a definition which shall apply to every form of this Protean disease, we hang over the threshold of our remarks, the observation with which Dr. Copland qualifies as the "best" he has been able to insert in his 'Dictionary,' viz., "under this definition may be arranged all those disorders which, *from their varied and changing forms, and their resemblance to many serious, and even to several dangerous or structural diseases,* have puzzled and misled the inexperienced."

We cannot make so free with Mr. Haycock's work as to transcribe from it the "Cases;" since, if we did so, we should have absorbed the entire work, and, moreover, left ourselves hardly any space for comment. We therefore beg such of our readers as feel interested in the matter, will buy (for one shilling only) the book; and, after they shall have attentively perused and considered it, they will favour us with their several opinions on the subject. We cannot make up our minds to the "cases" being such as would warrant for them such an appellation as "hysteria;" and yet, we must

confess, we are not in a position, just now, to offer a substitute. We must think the matter over again. We subjoin Hurtrel d'Arboval's account of hysteria, as published in his '*Dictionnaire de Médecine Vétérinaire.*'

HYSTERIA. (*Hystérie.*)

"A disease which, in women, consists in excessive nervous irritability, with periodical return of convulsions, sense of strangulation, and suspension of the exercise of several of the senses, resulting from cerebral irritation, in combination with irritation of the generative organs. Among the females of animals it is but rarely seen, unless in the case of certain species of them which are not permitted to follow the impulses of their venereal appetites. Bitches are seen so sometimes, and so are cats, at a time when they are rigorously denied the approaches of the male. They then experience turgescence and orgasm of the sexual parts; singularity in their movements, rubbing of the vulva against any hard body; catawawling and howling, or strange barking; restlessness, dispiritedness; abandoning their masters for the sake of straying away, &c. We saw a bitch of the lap-dog-breed in this way; she had *difficulty of swallowing;* and when she was constrained to swallow, she accomplished the act, but with pain. At times she frothed at the mouth, and occasionally howled, when she was left by herself. The indication paramount in these cases is to allow nature to take her course at the epoch of heat or rut. Afterwards, such animals may be kept on temperate regimen, or lose blood, should the hysteria take on a comatose character: calming at the same time the irritability of the organ by tepid vapour-baths, local bloodletting from the thighs or the tail. But the readiest remedy is the unrestricted admission of the male.

"Might not we regard as a case of hysteria the one constituting the subject of the following observation, collected by Guillaume, and inserted, along with several others of his, in the 'Memoirs of the Royal and Central Society of Agriculture for the Year 1825?' We cannot give here more than an extract

of it. 'A female ass was seized with symptoms of *horsing*, evincing desire of copulation, along with tetanic phenomena, the development of which were likewise referred to the venereal orgasm, among which were remarkable tight closing of the jaws, grinning through the teeth, slowness and difficulty of mastication, and difficulty in deglutition. At first, no male was allowed her. Bloodlettings, nitre decoctions with valerian in them, sharpened with sulphuric acid, assafœtida, clysters with the same acid diluted, frictions with camphorated volatile liniment upon the cheeks, neck, back, and loins, caused the disappearance of the nervous accompaniments; but, seeing that her horsing continued, she was given a stallion ass, by whom she held, became in foal, and from this time was cured.'"

We have at this instant but a very small portion of our library at our elbow, or, we have a notion, we could lay our hands upon M. Guillaume's cases.

Foreign Department.

STOMACHIC ABSORPTION.

By M. Prangé.

[*Paper read before the Imperial and Central Society of Veterinary Medicine.*]

On the 14th of April last, I had the honour to submit to the Society a translation of the work of M. Perosino, Professor of the Veterinary School at Turin, on 'Stomachic Absorption in the Horse.' I am about to read to you the Second Part of the work of the same author, in which we find the conclusions deducible from the entire work altogether.

The rapidity with which substances introduced into the stomach are expelled out of the body along with the urine, had given rise in ancient times to the notion of the existence of a direct communication between the stomach and the bladder, or else between the stomach and the kidneys.

We believe it will be necessary here to call to mind the researches and hypotheses entered into by different authors in anatomy and physiology, in order to arrive at some satis-

factory explanation of the asserted fact. Chirac found the bladder becoming full of urine after ligatures were put on the urethra, and he excited urinary vomiting by ligatures upon the renal arteries. Darvin and Brandt detected in the urine nitrate and prussiate of potash which had been introduced into the stomach, although they could find no traces of them in the blood: a fact which has been confirmed by Fodéné, who not only discovered in the urine the cyanhydrate of iron and potash, previously introduced into the stomach, though still could not detect them in the blood. Tippi, in 1825, announced a discovery tending to show a direct communication between the lymphatic system and the kidneys; asserting that "on a level with the second and third lumbar vertebræ, the lymphatic vessels split into two orders, one ascending to the thoracic duct, the others descending to open into the renal veins and the pelvis of the kidney. Though in after times neither the discovery of Lippi nor the results obtained by Chirac—notwithstanding the minute researches and experiments of Tiedmann and Gruchen entered into on the same subject; or that, at length, based upon the opinion of the immortal Haller, and those of the most distinguished physiologists—science abandoned all supposition of the existence of any vessels, between the stomach and kidneys, or stomach and bladder: accounting for the promptitude and celerity of passage of certain substances from the stomach into the urinary passages, through the activity and rapidity of absorption and circulation.

It was reserved to Bernard to exhibit, as demonstrable, the existence of vessels constituting a direct communication between the stomach and bladder or the kidneys; or else they show the great probability, under certain conditions of the organism, of the ingesta, in part or altogether, being eliminated with the urine, without their following the course of the general circulation. Many times he had observed, in injecting cyanine of iron and potassium into the stomach of dogs, during digestion, that he quickly detected their presence in the urine and renal veins, but not in the emulgent arteries; while the contrary happened if the animals were at the time fasting. This led him to conclude that, during digestion, the blood in the posterior vena cava became subject to reflux, and that the matters for absorption were conveyed through the vena portæ; under whose direction they immediately entered the renal veins. Many facts show, besides, that this inversion of circulation in the vena cava is followed by one of turgescence in the vessel, a state attendant on stomachic digestion, and that, on the diminution of such turgescence, whether it

be the result of digestion or of venesection, the course of the blood to the heart becomes quickly re-established.

The intimate relation existing between the vena portæ and the kidneys, as shown by comparative anatomy, informs us that, in reptiles, the trunk of the vena portæ receives the veins from the posterior extremities, and often from the kidneys as well, prior to the vena furnishing the ramifications which run directly into the uriniferous tubes, to constitute a renal vein, whose divisions receiving those of the emulgent artery, the blood of the first mixes with the arterial before the capillary network envelops the uriniferous conduits. From this anatomical arrangement, results a fresh approximation of structure and function between the liver and kidneys.

We may generally call to our aid, according to the theory of M. Bernard, the muscular structure of the posterior vena cava, indicated by most writers on anthropotomy and veterinary anatomy; though nobody has studied this with more care, or described it with more exactitude, as the following passage will convince us:

"The vena cava of the horse, at the moment of its passage through the liver, as well as the sub-hepatic veins, present a muscular structure developed to a degree which I have nowhere seen described. In every part connected with the liver, the posterior vena cava presents a larger calibre, and its parietes acquire increased thickness, owing to the existence of a strong muscular tunic. The fleshy fibres, for the most part, run longitudinally, forming red bundles lying parallel to one another. Before entering the liver, and after quitting it, the walls of the vena cava are much more attenuated, and present a structure altogether different.

"The muscular system I have just described in the vena cava, is equally demonstrable in the sub-hepatic veins. There, as in the cava, the fibres run longitudinally, and form the same sort of fasciculi.

"Examined through a microscope, the said muscular layer surrounding the cava and hepatic veins, appears composed of smooth, not striated, fibres.

"The parietes of the hepatic vena portæ presents no such muscular arrangement. And, for the rest, are surrounded by the capsule of Glisson, which allows of their dilatation or contraction independently of the substance of the liver; while the parietes of the sub-hepatic veins, being intimately adherent to the tissue of the liver, are to shorten themselves without causing a sort of compression or contraction of the hepatic tissue.

"Man, the sheep, the dog, rabbit, &c., have the same

muscular structure of vena cava posterior and sub-hepatic veins as the horse, only less visible in proportion to their size. And what is remarkable, is, that in race-horses, I have uniformly found this muscular tunic at its highest degree of development." *

Now, is the muscular structure of the posterior cava and hepatic veins, of which we have ourselves received several proofs of the existence, really calculated to produce the contraction of these vessels during digestion, and thus to favour the reflux of blood in the cava, which thus will become the representative of the *renal vena portæ?* When we come to reflect, as taught us by M. Bernard, that no animal, in the same degree as the horse, presents so marked a muscular structure in the cava and hepatic veins; and that this structure is at its highest development in race-horses, animals of extreme regularity and tried respiration; that such is not the case with the large ruminants, in whom the abdominal venous system is predominant; we shall be led to acknowledge in him (the horse) an active agent of compression of the liver, under the influence of certain conditions which may retard or even suspend the hepatic circulation. Among these conditions may be placed, in the first rank, the immoderate pressure the liver sustains through the rapid oscillations of the diaphragm, regulated by the brevity of the respiratory motions, as under rapid races; and that this disposition of muscular structure appears to us another argument to explain the great facility with which, under the influence of violent exercise, sanguineous congestion takes place, *pro tempore*, in the liver and spleen.

We would likewise set upon a level with this important discovery of M. Bernard the alleged direct communications between the vena portæ and vena cava, including those of the sub-hepatic veins. On this subject he expresses himself as under:

"Vascular communications, which might be called *direct anastomosis*, take place by means of branches running directly, with open mouths, to open into the large vascular trunks. As an example, I will take the vessels of the liver of the horse and sheep. In these animals this mode of anastomosis is very manifest between the vena cava and vena portæ, and it has the effect of establishing direct communications between the venous system in general. . . . . The consequence of these anatomical facts is, that the venous systems of the cava and portæ directly communicate in such a manner that a part

* Comptes-rendus de la Société de Biologie, 1849.—Notice sur les Travaux d'Anatomie et de Physiologie de M. Claude Bernard.

of the blood of the vena portæ is able to pass into the general venous system, without traversing the capillary tissue of the liver." *

This fact, plainly demonstrated by anatomical researches, as well as the preceding one, explains the rapid passage of the blood from the vena portæ into the vena cava; and indeed the latter has, under certain circumstances, been of aid in the progression of the two currents of fluid poured into it; but they establish no evident proof of the retrogradation of the same fluid to the kidneys.

A grave argument, and a serious one, against the theory in question, is deduced from the opposition met with by two currents of blood into the vena cava; of which one is directed from the liver to the kidneys, while the other tends to conduct venous blood from the hind quarters to the heart. Though the remark made on this subject by M. Bernard and the more celebrated modern physiologists, that the sanguineous reflux in the vena cava is carried on by jets or waves, while the thoracic abdominal one, which is continually flowing through the collateral channel of the vena azygos, is of great assistance in explaining the mechanism of the hepato-renal circulation.

We put the same faith in the words of an author, the latest writer on veterinary anatomy, who, while describing the azygos of the horse, expresses himself thus: "Its origin takes place along the inferior surface of the loins, on a level with two of the lumbar vertebræ, through deep-seated radical muscular branches, having no communication with the posterior vena cava. At this point it receives two or three lumbar branches, coming from the superior muscles and the rachidian sinuses."

Arriving in this manner at the physiological consequences deducible from this disposition of the great venous trunk serving the office of posterior cava, he adds,—

"The great vena azygos represents a canal for supplying the place of the posterior vena cava, too distant from the vertebral column in its thoracic portion to receive the vertebro-costal venous branches; while, at the same time, it constitutes a collateral channel, in connection with the rachidian sinuses, to establish a readier communication between the posterior and anterior vena cavæ. In this last respect, the function of the vena azygos becomes still more evident in certain animals, particularly in the ox, in which we find this

* Notice sur les Travaux d'Anatomie et de Physiologie de M. Claude Bernard.—Comptes-rendus à l'Académie des Sciences, 3 Juin, 1850.

vein springing from a considerable branch derived from the trunk even of the posterior vena cava."*

Repeated injections, on the other hand, have shown us, in the horse also, communications free enough between the azygos and posterior vena cava, through the first lumbar veins.

On the 27th October, feeling desirous of establishing a parallel between the pneumonia produced by ligature of the pylorus, and that taking place during the act of digestion, I tied the pylorus in a six years old horse, and by means of œsophagotomy, injected into the stomach cyanine of iron and potass dissolved in three pints of water. To another horse, thirteen years old, after having given him oats mixed with bran, and hay besides, by means of œsophagotomy, we injected into his stomach the same quantity of the same chemical preparation, dissolved as before.

The first horse soon began to show signs of agitation, and a diarrhœa came on, which lasted until death, as had been the case with every horse which had been subjected to the operation, in better than an hour; some blood was drawn from the jugular vein of both these horses, the serum of which was saturated with solutions of sulphate of iron, with the addition of a few drops of sulphuric acid. There was no reaction. After upwards of two hours, the first horse passed some thick urine, which was immediately acted on by contact of sulphate of iron. An hour afterwards he was destroyed. The fluid contained in the stomach, the urine in the kidneys, ureters, and bladder, all afforded evidence of the presence of prussiate of potass; whereas, doubts only were suggested regarding the blood of the vena portæ, and that which was obtained from other parts of the system. The fluid contained in the small intestines neither afford any traces of the salt, the ligature being too high to admit of any passage of fluid out of the stomach. The other horse was destroyed the following day; in him the cyanine of iron and potass was detected throughout the intestinal canal and in the urine, but nowhere else.

A similar experiment was made on a Hanoverian horse, twelve years old. Being kept without food for twenty-six hours, through an aperture made into the œsophagus forty grammes of cyanine of iron and potass were injected every two hours, commencing an hour after food had been given. Blood was drawn from the jugular, the sub-cutaneous thoracic vein, the aphthic, and the saphena, for upwards of twenty-four hours. The serum of the different parcels of blood submitted to test, never yielded any positive result; while the urine, which had

* Traité complet de l'Anatomie des Animaux domestiques.

been several times evacuated, was promptly affected by the test. At four o'clock in the afternoon of the same day, the animal having fasted for three days, we gave him 60 grammes more of the cyanine, dissolved in three pints of water; ten minutes afterwards he voided his urine loaded enough; the blood taken from the jugular vein a quarter of an hour after the taking of the cyanine of potassium, afforded no action with sulphate of iron; the other, extracted after two hours and a half, at five and at seven o'clock in the evening, treated by the same test, left us only with doubts as to the presence of the salt; on the contrary, the urine invariably offered most sensible proofs of its presence. This horse, after having shown symptoms of acute gastro-enteritic inflammation, was destroyed at eight o'clock in the morning. We found no cyanine of iron and potass, save in the middle of the cæcum, of the larger colon, and in the urine contained in the bladder and kidneys. The blood everywhere was black and diffluent, and particularly through the abdominal venous system.

From these and other similar experiments, the results led M. Prangé to the following

General Conclusions.—1. Ligature of the œsophagus produces prompt augmentation and abundance of muco-salivary secretion, accompanied by energetic and reiterated efforts of deglutition, which diminish, while hyper-secretion ceases: phenomena which we believe ascribable to rare and transient nervous diseases.

2. Ligature of the pylorus in the horse offers no opposition to stomach absorption.

3. The promptitude and abundance with which certain ingesta are detected in the urine, when the stomach is in certain conditions, is a proof to us of its absorbent function, since forty-eight hours sometimes suffice to cause to disappear from the organ every trace of their pre-existence.

4. Empoisonment does not take place after taking a large dose of the aqueous extract of nux vomica, so long as the pylorus remains tied; while some minutes after the removal of the ligature, should it have been on for some hours, convulsive movements become manifest, a circumstance in the administration which affords reason for believing that the matters eliminated pass through the urinary passages without being detectible throughout the course of the circulation.

5. The channel of communication between the intestinal tube and the right kidney, shown by ligature of the vena portæ, does not appear to us sufficient to afford an explanation of the fact, perhaps on account of its not being found sufficiently straight, save only in the grave case of sangui-

neous stagnation in the whole venous abdominal system; perhaps more on account of our believing one to be established between the cæcum and the kidney; in any case, the study of it being of service to anatomy and physiology, we have resolved to pursue experiments to clear up and confirm this point, and particularly to practise on the same animal ligature of the vena portæ and pylorus, as soon as circumstances shall prove favorable.

6. Notwithstanding these facts (elicited by experiment) are not conformable to the theory of the learned Bernard, in regard to the function of the post-renal, which is an aid to the posterior vena cava in the act of digestion, they furnish no argument in opposition to it; and after having shown some doubts, suggested by anatomy, we find ourselves constrained, for the moment, to return to them in explanation of an obscure phenomenon.

7. It seems a matter of truth, that ligature of the pylorus produces absorption through means analogous to those observed by Bernard in digestion, and these are not reproducible by distension of the walls of the stomach; they require the state of turgescence which follows such an operation, and is paticularly seen in the roots (or branches) of the vena portæ. This conclusion rests upon the observation of the presence in the urine of a large quantity of cyanine of iron and potass, introduced some minutes before into a stomach, flabby and relaxed through an absolute and prolonged regimen.

8. The vena azygos has likewise, in the horse, numerous communications with the posterior vena cava, in the lumbar region.

9. The presence of cyanuret of iron and potass, and the ioduret of potass, is disguised in the horse's blood if the mixture be made during the circulation. The venous blood of horses affected with chronic disease, particularly glanders, with which this salt has not entered into combination, often displays an opaline aspect, such as might make one suspect its presence.

10. Ligature of the pylorus constantly occasions very abundant secretion of liquid within the gastro-enteritic canal: the fluid of the stomach accumulates in proportion to the time which has elapsed since the operation.

11. The intestinal tube, submitted to the operation of ligature, yields analogous phenomenon.

12. In the production of this hyper-secretion, we suppose that the stagnation of blood, occasioned by compression of the nerves, takes the greatest part; but we may not exclude

nervous influence, seeing we have obtained an analogous exudation, though in a less degree, by section of the pneumogastric nerves and great sympathetic, performed in the region of the trachea.

M. H. Bouley has introduced into this subject the special notion, contrary to all evidence, that the stomach of the horse is not an absorbent organ; he views it exclusively as essentially an organ of digestion. The Italian savans have received the opinion of M. Bouley as it becomes philosophers to receive fresh facts. They have betaken themselves to experimentation; they have repeated the experiments performed at Alfort, and, in their hands the results being different, they have again repeated their own experiments, and so have advanced a step further than the professors at Alfort; they have varied their experiments, and after all have come to this conclusion:—*the stomach of the horse absorbs.*

According to M. Bouley's notion, absorption is not prevented from taking place, because the pneumogastric nerve exerts no influence on the stomach, so that the empoisonment, which happens before the division of the nerve, does not take place afterwards, but is owing to the effect produced on its motility—to paralysis of it. He seeks for the poison nowhere but in the stomach, into which he has introduced it, and then he infers that there has been no absorption, though he has not had recourse to any chemical analysis in order to appreciate the quantities and qualities of the liquids contained in the stomach after the experiment.

M. H. Bouley, in reply to this, said, that those who were in favour of the absorbent power of the stomach, explained the abolition of this, on section of the pneumogastric nerves, through the entire loss of nervous influence; though I have asserted that it is not because the absorbent power is destroyed, that no empoisonment takes place, but because the stomach does not absorb in its normal condition; and that the section of its nerves, by paralysing it, proves it to retain within it the poisonous liquid that has been introduced there. This is our opinion, based upon experimentation many times repeated.—*Réc. de Méd. Vét., Nov.* 1853.

Home Department.

AN EXPERIMENTAL INQUIRY INTO THE EFFECTS OF INJECTING PUS INTO THE VEINS OF ANIMALS.

By Joseph Sampson Gamgee, Esq.

From three experiments made for this purpose Mr. Gamgee infers:

1. That when pus is fairly injected into a vein, there is no obstacle to its moving on with the current of blood;

2. That the first organic effect of such injection is congestion of the lungs; which may be so intense as to prove instantly fatal, or be temporarily recovered from;

3. That the abscesses met with in the lungs of individuals who have fallen victims to pyæmia, may be produced by injecting pus into the veins of healthy animals.

Experiments for the purpose of ascertaining the effect of injecting pus into the blood-vessels have likewise been performed by Gaspard,* Trousseau and Dupuy,† Gulliver,‡ Renault and Bouley,§ Alan,‖ d'Arcet,¶ Lebert,** Castelnau and Ducrest,†† Sédillot,‡‡ and Lee.§§ The results they have obtained are singularly contradictory; and it would appear as if the progress of time and the addition of experience have only served to augment the obstacles in the way of a definitive solution; for the most recent inquirer, Mr. Henry Lee, arrived at conclusions which tended to subvert those of Castelnau and Ducrest, and of Sédillot, who have particularly distinguished themselves for the number of, no less than for the manner of executing, their experiments. It is remarked

* Journal de Physiologie, par Majendie, tom. i et ii, 1821-22.

† Arch. Gén. de Médec., tom. xi, 1826, p. 273.

‡ On the Frequent Presence and Effects of Pus in the Blood in Diseases attended by Inflammation and Suppuration. 'Veterinarian' for 1839, pp. 42—51.

§ Réc. de Méd. Vét., Mai, 1840; et Arch. Gén. de Méd., 3e Séric v, viii, 1840.

‖ Gazette Médicale, 1842.

¶ Thèse de Paris, 1842.

** Physiologie Pathol., t. i, pp. 313—324.

†† Rechercher les cas dans lesquels on observe les abcés multiples, et comparer ces cas sous leurs différents rapports; in 'Mémoires de l'Académie Royale de Médecine, t. xii, 1846.

‡‡ De l'infection purulent ou pyoèmie. Paris, 1849.

§§ On the Origin of the Inflammation of the Veins, and on the Causes, Consequences, and Treatment of Purulent Deposits. London, 1850.

by Mr. Lee that "the simple experiment of mixing some pus with healthy recently drawn blood, will at once show that such a combination cannot circulate in the living body. It will be found that the blood coagulates round the globules of pus, and forms a solid mass which will adhere to the first surface with which it comes in contact, and it will be evident that it is not till the coagulum thus formed is broken up or dissolved that its elements can circulate with the blood." Upon this passage I thus commented in a memoir on pyæmia, published in the 'Association Medical Journal,' for March 4th. "To argue, as Mr. Lee does, from the fact that out of the body blood coagulates round pus, therefore such a combination cannot circulate in the living body, is about as warrantable as it would be to predicate from the observation that pure blood coagulates in a basin, it therefore cannot remain fluid in the ventricles of the heart. The fact is, that the circumstances are so materially different, blood in an earthen vessel, on the one hand, blood in the living body, on the other, that no inference deduced in the one case is applicable to the other." The results of my experiments justify this criticism, and prove that the circulation of pus with the blood is perfectly possible.

Mr. Henry Lee has related seven experiments in which he injected pus into the veins, and they call for careful study. In the first of them (the VIth of his series, *op. cit.*, p. 28), three drachms of pure pus were injected into the left bronchial vein of a healthy ass. When the operation was completed, the sides of the vein were brought together with a pin, and the animal was allowed to get up. The vein above the opening could now be felt as a hard unyielding cord, as high as it could be traced with the hand; but upon gentle pressure being made, so as to propel the blood in the course of the circulation, the hardness completely disappeared. Two hours and a half after the operation, the pulse, which naturally was 36, had risen to 60; and the respiration, from 12 per minute, had increased to 26. The animal was destroyed two days after the injection.

Post-mortem appearances.— The wound in the left leg opened directly into the brachial vein, which was filled with lymph and a thin pus for a very short distance, both above and below the external opening. Immediately above this the vein was healthy; nor was there any appearance of disease in any of the other veins of the limb, nor in the veins leading to the heart. The glands in the axilla were swollen. The lungs were found studded irregularly in different parts with circumscribed spots of livid congestion; these existed both

upon the surface and in the substance of the lungs: they were generally about the size of a filbert, but in some places they occupied a single lobule, and were accurately circumscribed by its outline.

The result of this experiment, so far from supporting the doctrine propounded by Mr. Lee, is directly opposed to it. What was the cause of the vein above the opening feeling hard immediately after the injection it is not easy to determine; that it was not due to the formation of a clot is rendered more than probable by the fact that the hardness completely disappeared upon *gentle pressure*. Certain it is that the effects of pus circulating with the blood were speedily manifested by the acceleration of the respiration, not only absolutely, but also relatively to the increased frequency of the heart-beats. Thus, before the injection, pulse 36, respiration 12; two hours and a half after it, pulse 60, respiration 36.

The *post-mortem* appearances of the lungs, studded with spots of congestion, obviously the early stage of multiple abscesses, were characteristic of the entrance of pus into the circulation, perfectly concorded with my own experiments, and support the conclusions I have deduced from them.

In the second experiment (Exp. VII of series *op. cit.*, p. 30), Mr. Lee, on Nov. 23d, injected about an ounce of pus into the right jugular vein of an ass; the vein immediately became corded, and the blood appeared to have coagulated in the vessel. The operation did not much excite the breathing, but the pulse, which was naturally 35 in the minute, rose to 60.

Nov. 24th. The vein could be traced as a thickened cord as far as the sternum. Respiration 12 (the natural standard); pulse 90.

25th. The parts around the vein were much infiltrated with serum; pulse 50, respiration 12.

26th. The wound in the neck began to suppurate, and an abscess subsequently formed in the course of the vein about midway between the opening and the sternum. The general symptoms continued with very slight variation until the 4th of December, when the animal was destroyed.

Post-mortem appearances.—The jugular vein was found to have become inflamed only in the course of the circulation, and to be obliterated only a short distance below the external opening. The surrounding parts were greatly infiltrated with serum and lymph, and several abscesses had formed in the immediate neighbourhood. The lungs did not present any well-defined patches of congestion, as in the last-mentioned experiments.

Attentive consideration of the facts above recorded, make it obvious that the pus was not injected into the vein, but into the surrounding cellular tissue. *a*. Though the pulse was accelerated, the respiration continued natural; this is the reverse of the former experiment, in which there can be no doubt that the pus did circulate with the blood. *b*. The serous infiltration of the surrounding parts noticed during life, and verified after death, with the additional discovery of abscesses in the immediate neighbourhood, is precisely what occurred in my experiments II and V, in which dissection proved that the pus had been injected into the cellular tissue. The obliteration of the jugular vein, noted by Mr. Lee, is apt to occur from any cause which irritates the vein after an opening has been made into it. Thus, in experiments which I performed last year for the purpose of ascertaining the effects of injecting water and various saline solutions into the circulation, phlebitis occurred in several instances.

These observations are strictly applicable to Mr. Lee's VIIIth experiment; while, according to his narrative of experiments IX, X, XI, and XII, the injection of pus into the circulation was followed by such severe constitutional symptoms as to supply very weighty testimony in opposition to his teaching.

In restricting my analysis to the opinions of Mr. Lee, I have been chiefly actuated by a sense of their importance, based as they are on experimental researches, and opposed to conclusions, which ever since their announcement were regarded as marking an era in the progress of knowledge of the purulent infection. It was impossible to advance a step without admitting or refuting Mr. Lee's statements. To the latter duty, I have been led by careful experiments; the difficulty in conducting which has given me additional cause for respecting and being grateful to Mr. Lee for his endeavours to advance the knowledge of this highly important subject. In extenuation of not having as yet extended these researches, and analysed the opinions of all those who have hitherto engaged in them, I confidently appeal to the kind consideration of those who are acquainted with the nature of these investigations. I feel much pleasure in acknowledging the assistance I have received from my brother John, in the prosecution of the present inquiry.—*Association Medical Journal.*

BRIEF CONSIDERATION OF MR. GAMGEE'S EXPERIMENTAL INQUIRY INTO THE EFFECTS OF INJECTING PUS INTO THE VEINS OF ANIMALS.

By Henry Lee, Esq., F.R.C.S., Surgeon to the Lock Hospital, Assistant-Surgeon to King's College Hospital, &c.

(*From the Association Medical Journal.*)

In the 'Association Journal' for December 9th, Mr. Gamgee has entered into a critical inquiry of the most recent opinions concerning the local effects of injecting pus into veins; and has entered at length into a consideration of my experiments upon the subject, which, he has done me the honour to say, "were, ever since their announcement, regarded as marking an era in the progress of knowledge of purulent infection."

The limits necessarily assigned to a communication to a medical journal forbid even a passing consideration of the whole subject; but Mr. Gamgee's experiments and observations afford some particular points well worthy of attention.

With regard to the principles themselves, they have been fairly stated to the profession, and have been reprinted and adopted in some of the most widely-circulated surgical works in the English language. They must stand or fall by the test of public experience; but I cannot for a moment allow (as appears to be inferred by Mr. Gamgee) that the conclusions arrived at depend upon the accuracy of any one set of experiments.

Already have the descriptions of *subacute* and *acute phlebitis* given way to the descriptions of the local effects of inflammation of veins, and that general contamination of the blood to which the name *pyohæmia* has been given: affections essentially distinct in their nature, but which may nevertheless frequently co-exist in the same case. As an instance of the truth of these remarks, I may refer to the differences observable between the chapter on Injuries and Diseases of the Veins, in the fifth edition of Dr. Druitt's excellent 'Manual of Surgery,' published in 1851, and that in the sixth edition, which has just appeared.

With these observations, then, I must dismiss the general subject, and confine myself to the particular points mentioned in Mr. Gamgee's interesting inquiry.

The first sentence selected by Mr. Gamgee for especial criticism, and twice published for that purpose, is as follows:

—"The simple experiment of mixing some pus with healthy recently drawn blood will at once show that such a combination cannot circulate in the living body. It will be found that the blood coagulates round the globules of pus, and forms a solid mass, which will adhere to the first surface with which it comes in contact."

It must be evident that, in this sentence, the relative "which" refers to its antecedent "solid mass," and not to the globules of pus; and it would be therefore most unfair to draw from it the additional conclusion, that no time was occupied in forming the solid mass, or that pus could, under no circumstances, be made to pass along the blood-vessels. If such an inference could have been drawn from a single sentence, it might surely have been corrected by other statements in the same work ('On Phlebitis,' &c.) Thus, at page 43, I write, that the experiments show that pus has a tendency to coagulate the blood; and that, from this cause, "its progress is arrested *in some part* of the circulating system;" and at page 24 I state that, "where purulent or other fluids have been directly injected into the blood, the examination of the blood or of the vessels will by no means indicate the presence of foreign matter, nor will inflammation of the vein through which the fluid has passed be by any means invariably produced." Finally, I have myself detailed four cases in the work referred to, in which pus was injected into the veins without producing any characteristic local morbid appearances. It appears, therefore, strange to me, that Mr. Gamgee should have inferred from my writings that I was of opinion that pus could never be made to pass into the circulation, and that he should have endeavoured to prove, in supposed opposition to my experiments, that "the circulation of pus with the blood is perfectly possible."

"To argue, as Mr. Lee does," continues Mr. Gamgee, "from the fact that, out of the body, blood coagulates round pus, therefore such a combination cannot circulate in the living body, is about as warrantable as it would be to predicate from the observation, that pure blood coagulates in a basin, it therefore cannot remain fluid in the ventricles of the heart."

With this criticism, though somewhat complicated, and manifestly inappropriate, as applied to a peculiarity in the mode of coagulation, I have, on the whole, not much fault to find, since Mr. Gamgee has himself furnished the evidence that vitiated blood, to which alone my experiments referred, will not always remain fluid in the ventricles of the living heart.

"A mixture of two drachms and a scruple of good pus, diluted with an equal quantity of tepid water, was injected," says Mr. Gamgee, "into the right jugular vein. I had no sooner done this, and transfixed the lips of the orifice with a pin, than the horse began to heave at the flanks, after which he staggered a few moments, and fell; when down, he breathed laboriously thirty-eight times in the minute, and, with scarcely a struggle, and not more than two minutes' delay, expired. . . . The jugular vein and the right cavities of the heart were filled with dark-coloured currant jelly like clotted blood. . . . . From the manner the experiment was conducted, the introduction of air into the vein was impossible. On examining the blood from the right side of the heart, I discovered on it a very large number of corpuscles, measuring, on an average, one two-thousandth of an inch in diameter, and having nuclei not distinguishable from those of pus-cells. So numerous were they, that it was impossible to count them."

As the horse has only one jugular vein on each side, the blood returns to the heart through it, when unobstructed, with something like the same velocity that it passes from the heart through the carotid artery: a period of four or five seconds is the utmost time that the blood would, in the ordinary course of the circulation, take to pass through the heart from the jugular vein; yet, in Mr. Gamgee's experiment, the pus is found mixed with the clotted blood in the heart, after an interval of two minutes, without reckoning the time consumed in completing the experiments, or the interval during which the circulation may have gone on after apparent death. By what power, then, I ask, were these pus-globules detained in the heart? and what was the cause of the sudden death which occurred in this case?

This experiment of Mr. Gamgee's is the more interesting, as it coincides exactly with an experiment recorded in a very able and interesting paper by Dr. Mackenzie, in the last volume of the 'Medico-Chirurgical Transactions.' At page 200, Dr. Mackenzie states: "The femoral vein of a dog was exposed on the 15th of June, 1852, and half an ounce of pus, slightly diluted with water, was slowly injected into it towards the heart. In rather more than a minute, the dog seemed distressed; the abdominal and respiratory muscles became convulsed; and respiration ceased within two or three minutes. On making a post-mortem examination shortly afterwards, the vena cava and the abdominal and thoracic veins were found generally turgid with blood. On opening the right iliac vein, a stream of dark coloured fluid

blood poured out; and, on continuing the division of the veins upwards, the blood was still found to be fluid, with the exception of two or three small coagula, which were found about the middle of the cava. The right auricle contained a thin black coagulum, and small fibrinous coagula were scattered over and between the columnæ carneæ of the right ventricle, which contained a minute yellowish-looking matter, closely resembling the pus which had been injected."

A third case, in which the injection of a putrid fluid produced analogous symptoms, is detailed at length in the 'Medical Times' of the 3d instant.

What is it, I again ask, that produces the sudden and alarming symptoms in such cases? There is no animal poison known which is so sudden in its operation; and that pus, simply as such, produces no such symptoms, we have abundant proof from those cases in which it has passed without obstruction in the course of the circulation.

In a Report of a Committee of the Edinburgh Physiological Society of the 9th of January, 1853, upon some experiments undertaken at the instigation of Professor Bennett, it is stated, that fresh and healthy pus was slowly injected towards the heart into the jugular vein of a donkey. A slight obstruction was at first perceived, and the vein above the ligature could be seen to be somewhat swollen. This swelling, on being felt, was very soft, and, on pressing the vein from below upward, the mixed blood and pus was readily pushed before the finger. When all obstruction to the passage of pus from the syringe was removed, the syringe was again filled, and another ounce of pus was injected, without occasioning any further local effects. The animal was then allowed to get up, and exhibited no change in its normal condition whatever. The same ass was the subject of a second experiment a fortnight later, having been perfectly well in the interval. Six inches of the jugular vein were now exposed, and an ounce of perfectly healthy pus was then slowly injected downwards towards the heart. Another syringefull of pus was then injected. The animal presented no unusual symptom whatever during the next four days.

To what, then, are to be attributed the sudden and fatal effects observed in Mr. Gamgee's and in Dr. Mackenzie's cases? I answer, to the coagulation of the blood in the heart. It is to this that are to be ascribed the sudden and fatal results in the cases which these gentlemen have recorded; and to the absence of any such result, that the corresponding absence of symptoms must be assigned in the last-mentioned experiments.

Thus, I conceive that, while it is fully demonstrated that, in certain cases, pus may pass into the circulation without producing any very manifest inconvenience, that, in others, it will produce coagulation of the blood in the lining vessels, and a train of consequent symptoms which will vary according to the locality in which such stagnation has taken place. What the circumstances are which, in one case, will determine this effect, and in another not, will form the subject of a separate inquiry. For the present, I must content myself with having shown, as I believe, from independent evidence derived from experiments undertaken to illustrate other and different views, that the doctrine which I first published in 1849 is not devoid of foundation; and that the propositions which I then endeavoured to establish,—namely, that pus and some other morbid fluids, when mixed with the blood, have a tendency to produce its coagulation, and that this tendency is often more quickly manifested in the body than out of it,—have been fully demonstrated.

18, Dover Street, Piccadilly;
Dec. 13th, 1853.

ON THE PHYSIOLOGY AND DISEASES OF VEGETABLES, PARTICULARLY IN REFERENCE TO THE DESTRUCTION OF HOP PLANTS.

BASED ON AN ESSAY WHICH WAS AWARDED A PRIZE BY THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND, TO E. J. LANCE, IN THE YEAR 1847.

The inquiry will be divided into the following heads:

1st. The natural history of the hop-fly (*aphides*) in all its stages.

2d. The best remedy against its attack, and preventive against its ravages, by growing other seed in gardens, or by other means.

3d. Whether the same fly attacks other plants.

4th. Whether the disease on the hop and other plants, called "honey," is occasioned by the hop-fly, or arises from some other cause.

1st. *On the natural history of the hop-fly.* It is presumed to be the *aphides*, that is meant by the term "hop-fly," as there is another insect, the flying beetle, *altica*, which is at times very destructive to the first growth of the hop plant.

The hop-fly plant lice, dolphin, vine-fretter, are local names

for this variety of insect, which feed on particular vegetables. There are seventy-three species named by Linnæus, who had placed them in his order Hemiptera, each variety choosing a particular vegetable to exist upon; and some varieties live only on particular parts of plants; one variety, *aphis brassica*, will exist on the leaf of turnips, and another variety will find food only on the stalk of the turnip blossom.

The *aphis* tribe, according to the modern division of insects, is included in the class five, Homoptera, (four-winged, with sucking mouth.) This class is divided into three orders or sections, in accordance with the number of joints of the *tarsus*, or foot. The wings, when folded on its back, form a ridge, like the roof of a house.

This variety of insects offer some very anomalous features of structure and habits, and they depart very widely from the general type of the division, but the mouth or rostrum of this class are uniform, as they are all adapted to suck juices from vegetables; the tongue being channelled like a gutter, and having lance-like piercers to form punctures on the surface of plants.

Before any further description of these insects is given, it would be well to speak of their appearance on the hop and other plants, and what are their general habits, as evinced to a casual observer; and in particular, what has been the circumstances attendant on their attacks in general.

The first appearance of the aphis is the winged insect resting on the underside of partly developed leaves, generally at the extremity of hop shoots, the young shoots of roses, beans, peas, &c. A few flies only at first make their appearance, perhaps one or two on some young leaves of hops; these leave globular eggs between the folds of the undeveloped leaves, which by the time the leaves are expanded, have increased into lice (an unwinged progeny). This first flight of winged insects is often followed by an increased quantity, and twenty or more winged insects may be seen on the fully developed leaves of hops, and these leaves may, in the course of ten days, be covered with the winged and unwinged aphides, with also some of them on the stalk at the extremities of the lateral shoots. Their first attack is generally about the beginning of June, but during the year 1846, and on two occasions since, I have observed them so early as the middle of May. In the year above named, the season became hot and dry, and by the 25th of June they had all disappeared. It will sometimes happen, when the attack is early and they disappear suddenly, in consequence of a peculiar state of the atmosphere, that there will be another and late

attack. When this happens after the hops have begun to show fruiting branches, it is then likely to be complete destruction to the crop.

Mr. Gilbert White, in his 'History of Selborne,' describes a flight of these winged aphides as alighting on the plants of his neighbourhood so late as the 1st of August, in the year 1787. He says, "They probably were taking a flight from the grounds of Kent and Sussex, to the hop plantations of Alton and Farnham."

Previous to the final exit of the aphides, when their attack on hop leaves is prodigious, their cast skins may be observed on the top surface of those leaves, where other ones hang over them; and it is also generally observed that, during the height of their attack, few or no winged insects are to be found, but that previous to their final exit, some few fledged ones may always be observed. By the aid of a microscope, the eggs and the first hatching of the apterous progeny may be distinctly observed.

When the leaves are fully developed, the unwinged aphis may be seen in all the stages of growth, and also may be seen to issue from the posterior part of its parent in a viviparous manner.

The wings do not denote the sexes; for, in the early as well as the late periods of their development, the males, as well as the females, are furnished with wings; but there is a doubt if any of the male animals assume the form of the apterous or unwinged insect.

The males, then, are all presumed to have come forth from eggs, whilst the females assume both forms; but it is the winged ones only that deposit eggs.

It has been remarked by all writers on this subject, that the males are few compared to those of the female, and that they appear only at the first commencement of the season, and at the latter end, when having fulfilled the design of nature, produced their kind, and enjoyed the pleasures of existence, they pass away like unto all animal creation. The services of the male not being required during the period of viviparous issue of progeny.

The above is a general view and description of the appearances of aphides, to a casual observer of them on the hop plants. It is now necessary that a more particular description should be given of this insect, which differs in some slight degree from other aphides.

It is this one variety only which attack hop plants; and they, like all the tribe, as well as most insects, have their paricides or enemies that exist by their destruction.

It would also be well that some information should be given of other varieties, as a knowledge of them will lead to better information of the one under our more immediate consideration.

That a proper knowledge of this class of insects is worthy of attainment by the cultivators of the earth, has been fully evinced this year, 1853, by the great destruction of property which has taken place. It is only by having a thorough knowledge of the natural history of any class of animals that man can bring them under his own control; he can subdue the strongest quadruped, also the most stupendous of the fish mammalia, yet the minute aphis fly becomes his master, and beyond his power; and this does, in some measure, arise from his ignorance of their natural history. To cover his ignorance, small insects and fungi are termed blights, coming from they know not where, or when and whence they go.

The *aphis* insect, of one variety or another, attacks most of the farm crops; there is one, the *aphis granaræ*, is often seen on the wheat crop, the barley and oats, in the middle of July; this is a green insect, like the *aphis humuli;* when these first settle on the ears of corn, they are winged, but in about five days the other unwinged (*apterous*) progeny make their appearance, feeding on the chaff scales of the corn; in this state they are of a brownish-green. This *aphis granaria* is subject to the attacks of a parasitic fly, as we are instructed by Mr. Curtis, in the Journal of the Agricultural Society. This attack is by an *ichneumonides* fly, and is named by Mr. Haliday, *aphidius avenæ*, the eggs of which are laid within the body of the apterous aphis, the belly of the insect having been pierced by the ovipositer of the female *aphidii*. Mr. Curtis describes another parasitic fly, named *ephedius*, which pierces and deposits an egg in the body of the aphis insect, but inserts its ovipositer into the back, where it deposits its egg to destroy the aphis.

Thus nature has in a most wonderful way provided means of checking the ravages of this blighter of man's fair prospect; without some such checks, the ravages of these plagues to the farmer's crops would be much more destructive than they now are. On the subject of these parasitic flies, I shall have occasion to make some further remarks relative to providing an antidote against the excessive ravages of the *aphis* insect amongst the hops, which has been felt this year, 1853, in places, as virulently as ever it was, whole acres and districts being totally destroyed.

We shall also see that nature has provided a devouring

"lion," to eat up these *aphides* that are so destructive to the hop plants.

We are instructed by the writings of Mr. Curtis, for particulars of which I must refer the reader to the 'Farmer's Herald,' to the publication, now proceeding, of 'Morton's Cyclopædia of Agriculture,' by Blackie and Son, and would refer to the copious list of farmer's pests, under the term "Insects," for further information on this interesting subject; but I would now remark that there are few insects but what have other smaller ones, which prey on them, and of some varieties of the *aphis* insect; they are nearly all cleared away by these parasitic attacks.

I have now before me some bearded ears of wheat that were gathered two years ago, and had been attacked by the *aphis granaria*, the ears having been stunted in their growth, the ground being a poor sand, without sufficient pabulum to fill out the ears. These *aphides* had been punctured by the *Ichneumonides* fly; many of them had crawled to the beards of the ear, and there became attached by their gummy character, and there they now are, their skins retaining the character of the head and abdomen of the insect, the parasitic larva being gone.

The aid of a microscope is required to show this phenomenon, and the shell-like character of what remains of the original insect; in some instances I have seen the remains of legs and antennæ, many of the shells are retained between the chaff of the grains.

Linnæus had described a great number of the *aphides*, and asserted that every plant supported its distinct species of these insects, and he named them after the plants on which they fed; and it is my attention to do so in this essay, as of the one now about to be described more particularly, which feed on the hop plants exclusively: it is termed *aphis humuli*. Its description will be a type of the whole family.

Mr. Curtis is inclined, after an extensive and careful examination of these insects, to subscribe generally to the opinion of the Swedish naturalists, viz., that each plant has its separate *aphis*, and he has described four varieties that feed on the Brassica tribe of plants, one of which only exists on the flower-stalks.

The *aphis humuli*.—This variety belongs to the hop plant alone, and is found to infect that plant from the early part of May to the end of August; and this year I saw many alive in the picking time,—middle of September.

It is seldom that they are continuous during the whole of

this period, but often remain thirty or forty days, go off and come again, the first race appearing to have lived their time.

This successive attack is wholly dependent on the meteoric state of the atmosphere; to that, and electric influence, we must ascribe the early or late attacks of these insects.

It does sometimes occur that the *aphis* is not seen on the hop plants at all during the whole of the summer.

The sun is the great invigorator of the insect tribe, and we shall find that by referring to this source, we may explain the effects of the *aphides* on the hop plants.

In the year 1836, the hops in this part of Surrey and Hants, extending over a cultivation of three thousand acres, were nearly free from the attacks of this pest; the weather was exceedingly cold and wet throughout March, April, and May, therefore was most ungenial to the existence of the *aphis* fly.

The year 1835 was very hot in the spring, and indeed was so throughout the year; there was, therefore, much infection on the hops in the early period of their growth; but these run their race early, they were all cleared away, and the duty came out at a high figure, the old duty being £235,207.

The spring of the year 1834 was also hot, and there was much infection; so much were they attacked, that the old duty was, in June and July, calculated at only £60,000 in consequence thereof; but the attacks of aphides were early, and occurred before the plants had thrown out their lateral shoots; hence they lived their day and passed away, and there was a productive return, the old duty having paid £189,713.

It was to the attack of *aphides* we must attribute the failures in the growth of hops in the following years; at any rate they were the chief cause in some years, and in others they were the sole cause of the failure.

In 1793	the old duty was only	£22,619
1798	,, ,,	56,032
1802	,, ,,	15,463
1805	,, ,,	32,904
1812	,, ,,	30,561
1823	,, ,,	26,057
1825	,, ,,	24,317
1829	,, ,,	39,866
1840	,, ,,	34,091
1846	it was equal to	242,929
1850	,, ,,	223,393

The summer of the year 1846 was hot and dry, from April to the end of September; the aphides came into existence so early as the first week in May. In June the duty was estimated at £95,000. The *aphides* remained about six weeks, for, at the end of June, not a fly, and scarcely an apterous insect was to be seen on the hop leaves; indeed it was a remark I made at the time, that more aphis eaters were to be seen on the leaves than there were aphides to be eaten, and the old duty paid nearly £243,000, being £148,000 more than it was in June estimated it would pay.

It does therefore appear, that it is to the state of the meteorological changes of the atmosphere we must look for the bringing forth of this obnoxious insect, either early or late; and to the same cause we must attribute their passing so quickly away, as will sometimes occur, for a few have been known to appear for a week or two, and then all pass away and be no more seen.

The *aphides* are therefore an index of wealth or poverty to the grower of hops.

It has been asserted, that a failure from this cause does never occur in two successive years; it would be too much to say it never can or will, for such a foretelling cannot be at all depended upon.

On examining the under-side of hop leaves, after they have been attacked by the *aphides* in their early stages, the situation of the punctuary made by these insects may be observed by a common magnifying glass, as the sap exudes in these places and form globules, after which the upper surface becomes shiny, and blackens from a similar cause — *Farmers' Herald, November* 1853.

THE VETERINARIAN, FEBRUARY 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

In the last Number of the 'Racing Calendar,' a Member of the Jockey Club states, "that he will give a Reward of £100 *to any Veterinary Surgeon who may discover an effectual remedy for the complaint of roaring, now so prevalent amongst Race-Horses." The reward to be paid on satisfactory proof of the efficacy of the remedy.*

THE offer of a "nobleman" on the turf, to present any person with £100 who should discover a remedy for roaring, puts us in mind of a certain wealthy citizen of our acquaintance, who, on the occasion of his being seized with indisposition—a rare incident with him—addressed his apothecary, on his first visit, as follows: "Now, doctor, I feel quite assured that it is in your power either to make me well at once, or to keep me on your list for an indefinite length of time; therefore, I tell you, at the offset of my illness, if you will cure me by a *single* dose of medicine, I will present you with twenty pounds!" Roaring being rather a *generic* name for disease than a *specific* one, had the nobleman in question specified the nature or kind of roaring which he was so desirous of curing, or better still, of *preventing*, it is probable his notice might have set professional men to work on the matter, and, possibly, the object in view might have been attained.

There is no part of the organism of the horse more liable to derangement than the membrane lining the air-passages; neither is there any in which, when once it becomes diseased, disease is apt to rage in with more intensity, or endure for a greater length of time. Great reason for apprehension therefore needs arise in the mind of the owner of the subject of it—colt or filly just blooming into horsehood—lest the consequences of the inflammation be such as to entail temporary or permanent roaring. Catarrh, strangles, bronchitis, especially in the epidemic or influenzal form, are the dis-

eases which, when they attack horses just entering, or having entered, into puberty, we have to regard with the greatest suspicion; and it is to their prevention, or mildness of attack and shortness of duration, that we must principally look in order to save our horses from becoming roarers.

Under the present precocious system of racing, the double object of keeping a colt in health, at the same time that he is being "got into condition" for racing, must prove, at this critical period of the animal's life, especially in certain seasons and under certain circumstances, an extremely difficult matter. With a young horse which has no occasion to be stabled before his fourth or fifth year, and, consequently, of whose colthood so much at least is ensured to be passed in health, the case is different to that of the racer; who must needs be, like a hot-house plant, forced beyond the growth and development which nature, left to herself, would have given him: his chance of getting harmless through his season of colthood being doubly hazardous. He becomes more obnoxious to disease of the respiratory membrane, takes it at an earlier and a tenderer age than the half-bred does; and is so much the more likely to suffer serious consequences from it. From this we may learn one potent reason why turf horses are apt to suffer so much more severely from such complaint than other horses: why, in other words, so many of them turn out, when they come to work, to prove roarers.

To this, we fancy we hear the "nobleman" saying, "that may be all very true, but how is it all to be prevented; or, if not prevented, how is the disease, when it does assail the animal, to be *cured?*" So long as the present system of *baby*-racing continues, and the same mode of rearing, stabling, and feeding, entailed by it, persisted in (the latter being found the best to answer the requirements of the former) so long, we may answer, such grievances must be endured. On subjects so susceptible as young race-horses, under such a mode of regimen, are, and, we may add, so inflammatory as their constitutions thereby are rendered, can we wonder at disease, when it does set in, proving so violent and so disorganising. And we ask, in the present stage of our medical

knowledge, "what more are we able to do than is done?" The science of medicine is every day advancing, and nothing tends to its advancement more than practical investigations into the causes and nature of disease. Let then the proffered reward of £100 be offered to the man who shall compose the best and most practical essay on roaring, as Mr. Goodwin has suggested, and this will render it by no means improbable that such additions to our present knowledge of roaring, and such improvements in our present treatment of it, may result, as shall tend, if not absolutely to the *cure* of roaring, yet to such amelioration in the management of young racers as shall render them less liable to take such disease, and make the removal of it an easier and more certain matter when complaints leading to it do set in.

Mr. Goodwin's Letter on the subject is addressed to the editor of '*Bell's Life*,' and runs as follows:—

"The offer, advertised in the 'Racing Calendar,' for the cure of roaring, has certainly been productive of some good, inasmuch as it has been the means already of directing attention to this important subject. The offer, in its present shape, is not likely to realise the intentions of the nobleman who made it, but it is my belief that, were a prize to be offered for the best treatise upon the nature, cause, and treatment of this malady, some valuable information would be elicited. Let the competing essays be subjected to the ordeal of the Council of the Royal College of Veterinary Surgeons, and I have no doubt that in a thus more tangible form we shall find, if not a cure, some good practical results. Among the contributions to which you have latterly given insertion, I perceive my name mentioned by "Eques," and however flattering his remarks, I am unwilling that the impression which his quotation is calculated to make should be taken for an admission on my part that roaring is *not* hereditary. We have before us such a remarkable case, one which, in this instance, so distinctly proves that *it is hereditary*, and this is so well known to all turfmen, that I feel no delicacy in giving the names of Bowstring, Iris, and Longbow, all the produce of one mare, Miss Bowe, yet not by one sire; for Bowstring was got by Amurath, the other two by Ithuriel, first-class race-horses, and whose infirmity as roarers is conclusive upon this point. At the same time I am aware that many instances exist of stallions either being or supposed to be roarers, whose stock are wholly free from any symptom of their sire's dis-

order; but I believe that a great deal of misapprehension exists, which has often been the cause of imparting to stallions the character of their being roarers when such was not the case. The common test for roaring, and which is so generally in use amongst dealers, is to produce a forcible inspiration by giving the animal a sudden blow or kick on the ribs, and which, in the case of a roarer, elicits from him an unmistakeable grunt. However, this criterion is not always to be relied upon; for although I never knew a roarer who did not grunt, I have known horses make a similar noise upon being struck, that were not roarers. The fact that a very corpulent animal cannot be subjected to anything like sudden exertion without a forcible effect of respiration, may in some measure account for many of our covering-stallions having acquired the imputation of being roarers. That Taurus was a roarer in his early racing career must be admitted, but his roaring, as he advanced in life, was scarcely audible, and his performance in his last race over the Beacon Course, with Camarine, was sufficient indication of his respiratory powers being unimpaired. One of your correspondents alludes to the sire by West Australian as a roarer, I should refer him to Melbourne's race in the Chester Cup, when it was won by the Dey of Algiers for a contradiction to the imputation. His fame, however, is far too exalted to be affected by any remark of the kind. Were roaring a specific malady arising in all cases from the same cause, we should not have been led away from that consideration which alone can be of any service: I allude to the investigation of that cause which produces the roarer of every-day occurrence; I say this, for on reference to our most celebrated authors, I find them one and all rather inclined to seek out every unusual and occasional cause rather than pursue the inquiry so much required as to the prevailing cause. My experience does not lead me to observe that roaring is more prevalent now than formerly; indeed, I believe that the disuse of the bearing-rein, which was so fashionable with all our tip-top coachmen in olden days, has done much towards its alleviation. That we have more race-horses roarers may be true, but then it must be taken into consideration that we have double the number of horses racing now than formerly; and this may not be an inopportune moment to advert to the number of races run last year by young horses, and which alone must be destructive to the best of constitutions. The £10 Triennials and the railroads now afford an abuse formerly unknown,—that of starting three-years-old no less than nineteen times, and two-years-old no less than fifteen! *vide* the 'Guide' of the last

year,—Filbert, Grapeshot, Audubon, Snowdon Dunghill, Brown Brandy, Barrel, and Czarina, *cum multis aliis*. Abused as these horses were, who can wonder at their becoming unsound; indeed the wonder would be how they could stand preparing and racing so long, and be sound. Many years since—in fact so long ago that I now forget the journal in which I published some remarks on roaring—I had an opportunity of witnessing the *post-mortem* appearances of several roarers; in one and all of them, I found the *same* cause prevailing, *i. e.*, paralysis of the muscles of the larynx. It is true that my experience was chiefly amongst harness-horses, but there was no mistaking the cause in these instances; and I now send you a cast in wax of a well-defined case, and which will explain itself far better by inspection than I can do in attempting a description of it on paper. In a conversation with Professor Spooner, only a few days since, he stated his belief that the prevailing cause was the one I here allude to, and he went so far as to say that in ninety-nine cases in the hundred, the cause is to be found in the derangement of the nervous influence of the muscles of the larynx."—*Bell's Life*, January 15, 1854.

The members of the Veterinary profession will feel gratified to learn, through our last month's Council Report, that, at length, they are in possession of a house of their own, and of one respectable in its *façade* and means of accommodation, as well as in its situation, which, if not the most eligible that could be desired, is, at least for London, a quiet one, and one free from many annoyances to which houses of the same class or rental, anywise centrally placed in the metropolis, are too apt to be found obnoxious. In short, to the house we see no reasonable objection; but, with the appellation given to it of "Institute," we find a great deal of fault. We know of nothing to warrant an expletive or supererogatory designation of this sort, save the *Mechanics' Institute:* a name which originated with its founder, the late celebrated *savant*, Dr. Birkbeck, whose object appears to have been to denote by it, an institution of a lowly unpretending character. To give such a name to a Royal College, is evidently

demeaning it, besides being perfectly out of place it is altogether inapplicable—to a house which has been converted into a College, and in that form is supposed to carry with it a veterinary importance and regard which no other building can do, not excepting the Royal Veterinary College itself. The Royal College of Veterinary Surgeons is the proper and only name which our "body politic and corporate" can go by, according to our Charter, which name is as equally applicable to the *house* of residence or business of that body as to the corporation itself, and no change or alteration of any kind whatever can, *by law*, be made in it. We have the "Royal College of Surgeons," and the "Royal College of Physicians;" why, then, should we have the *Institute* of the Royal College of Veterinary Surgeons, in place of the R.C.V.S. *itself and alone.* Why add length to a title already longer than could be desired? We hope we shall hear no more of this long-winded cognomen. Let the Council lop off the monstrosity at once, and fall back upon their old, and honorable, and only legitimate name—the Royal College of Veterinary Surgeons.

With regard to the arrangements contemplated in carrying out the business of the College (not the *Institute*) all we would say is, "take care not to outrun the constable." Calculating the outlay of the College in round numbers at £300 per annum, and its income (which is precarious) at £350 per annum, £50 only will remain as surplus; and this remainder will be liable to casualties. In this state of affairs, it is pretty evident, we can never become a wealthy college; at the same time it is to be hoped, we may not turn out to be a needy one. Perhaps, some day a windfall, in the shape of a benefaction or bequest, may fall in our way.

The last meeting of Council, appointed for the 26th inst., was to take place within the walls of the Royal Corporate College itself.

*** These comments would have been made in the same number as the "Proceedings of Council" appeared, had the "report" of the meeting, which was held Dec. 14th, reached us in time. [Ed. *Vet.*]

THE

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A PRINCIPAL VETERINARY SURGEON IN INDIA.

By J. Western, M.R.C.V.S., Madras Horse Artillery.

Dear Sir,—It was with the very greatest pleasure that I perused your article, in the *Veterinarian* for October, on the necessity of a Principal Veterinary Surgeon to the Indian army being appointed. There can be no doubt of the fact, that this deficiency, which has now existed about twenty-seven years, has tended in a variety of ways to the detriment of the service, and the disparagement of the profession.

Nothing can be more directly to the point than your second paragraph, where you say "A young man embarks for India direct from one of the Veterinary Colleges, who, perhaps, has never had a case of a sick or a lame horse confided to him to treat on his own judgment and responsibility in his life. On his arrival in India, he does duty for three months under some senior veterinary officer, and then can call for examination, and, should he pass, at once comes into charge of a regiment." Nothing can be more strictly correct than this; and here is a responsibility,—three hundred and fifty horses placed under his treatment! and, if a troop of Horse Artillery be located at the same station, he has charge of that also, making upwards of five hundred horses, besides valuable chargers belonging to the officers! It must also be borne in mind that in *nearly every instance he stands isolated*, nay more than this, he is thus suddenly placed in the receipt of as many pounds per *mensem*, as he, perhaps, has previously been in the habit of receiving annually; for, in point of fact, he actually draws better allowances than any other officer in the army of similar standing, civil or military, and at the same time, in his medical capacity, is almost utterly beyond control. It is quite true, there are orders in existence which oblige him to visit his hospital at stated periods, and if he strictly attends to this, although half his patients die,

what can his commanding officer say: he is attentive, and the latter can judge no further.

In a debilitating climate like India, with a vast amount of idle time upon his hands, surrounded by others equally free from any great call upon their time, utterly beyond control in his medical capacity, is it to be wondered at that he falls at once into habits of idleness, carelessness, and perhaps dissipation? Is it to be wondered at, that under these circumstances twenty-seven years have elapsed since first Veterinary Surgeons were appointed to the Indian army, and not one single volume been produced by them? I answer No! Professionally, we labour under difficulties that no other class of officers suffers; as I said before, we are generally placed, individually, in stations, hundreds of miles between us. Individual exertion may do much, but perfection in no branch of science was ever consummated by individuals; as you most justly say, we require to be linked together, and the ends of the chains held by a superintendent; the ebb and flow of the little talents we possess should be taken advantage of; a recipient and dispenser is needful, one who can sift the grain from the chaff, and from the former feed the hungry with the food of knowledge and experience.

Let me put a case. About twenty years ago, I was in the —th Cavalry: a colonel who was characterised as a *good drill* was sent to correct some little failings that had shown themselves to have arisen under the bad arrangements of the major; this colonel (he is a general officer now, in England, and will laugh over this should it meet his eye) drilled the regiment *on foot* for nearly a year, until the youngest cornet could have led it into action; during the whole of this time the regiment was walked out daily for exercise under the native "officer of the day," and *watered before* coming into lines. Now, by "standing orders," the horses are watered *after* feeding in the morning, and *before* feeding in the evening; and as you may naturally conclude the effect of a draught of water immediately after grain is the production of numerous cases of colic.

The change of orders here reduced the number of these cases so materially, in comparison with a troop of Horse Artillery, also under my care, that I seized the opportunity of endeavouring to effect a remedy. I placed a statement of the facts before the commanding officer, who objected to forward it, because it alluded to the treatment of the horses of Artillery not under his command; I gained the sanction of the commanding officer of Artillery for it to be forwarded, but still my commanding officer objected; I tried the officer

commanding his cantonment, but he objected also; I then went to the superintending surgeon who could only forward it to the medical board, and the medical board sent me a very civil reply to the effect, that my suggestion for a change was doubtless well founded, but that *I must address the Government through the proper channel!* I have no doubt my document is amongst the valuables of the medical board at this time, for the "standing orders" are the same, and we have to cure, if we can, the cases of colic which result.

I could give you other examples which would show equally palpably the necessity of some head to the department, to ensure, not perhaps perfect efficiency, but most certainly more advantages from us than the service obtains now; and then, I think also, our standing in the estimation of the profession would be elevated; for the successful and scientific pratice of an individual made known to others, would stimulate them.

Yours very truly, &c.

Bangalore, *Dec.* 4, 1853.

BURSAUTEE.

By Thomas P. Page, Veterinary Surgeon, 1st L. Cavalry.

Dear Sir,—I beg to enclose you a letter I wrote two years ago, on the appearance of a circular from our head quarters. It appears that there has been a great deal said at home, on "bursautee," and I beg to contribute my mite for information. In the course of 1854, I shall attempt some further remarks on this malady. At present, let it suffice that it is a most important matter; since hundreds of horses annually are lost from it. The loss of structure is so great that the animal becomes quite useless.

I am, my dear Sir,

Yours very sincerely, &c.

Caunpore, *Dec.* 18, 1853.

*** The "Circular from Head Quarters" on the "Treatment of Bursautee," a production from the pen of Captain Apperley, of the 4th Light Cavalry (son of the late Mr. Apperley, well-known as "Nimrod"), was printed by us in No. 68 of the *Veterinarian*, August, 1853. We now are able to annex Mr. Page's reply.—Ed. *Vet.*

CAPTAIN APPERLEY ON BURSAUTEE.

(*To the Editor of the Lahore Chronicle.*)

Sir,—Being disappointed that a veterinary surgeon of long standing in India does not come forward on this occasion, I beg leave to call your attention to a circular now publishing throughout the army, emanating from Captain Apperley, of the 4th Lancers, in which is detailed a mode of treatment for the cure of bursautee and quittor in horses, as practised by that gentleman at the Poosah branch of the central stud.

As the subject is of some importance to Government, and the owners of horses, generally, I think we, as a graduated body—finding that it does not come through the channel of his veterinary surgeon, who has medical charge of all the stud horses—have a right to examine and report upon it, with a view to determine whether it is founded upon observation and experience, and worthy of general adoption, to recommend it accordingly; or on the other hand, if we prove it a theoretical fallacy to discard it altogether as useless—believing, as I do, from its delusive character, and erroneous statements, that the latter fate awaits it—and also that it is calculated to bring discredit on us as a profession, and the stud veterinary surgeons in particular, if such a document, bearing neither the impress of science or skill, and utterly valueless in a practical point of view, is allowed to issue from the stud department without refutation.

Every person that has read the paper must infer that Captain Apperley has descended to empiricism, when he prescribes one treatment for two diseases diametrically opposite in nature. The son of "Nimrod," for whose talents and general horse-knowledge, I entertain the highest respect, should have known that quittor is a simple sinus of the foot, requiring local remedies only, always externally placed, produced by injury alone, and that salivation can have no effect whatever towards its cure.

Again, Captain Apperley has reasoned from analogy to man, when he prescribes 2 or 3 grains of calomel to a horse, (and this Homœopathic dose without opium to induce the mercury to accumulate in the system;) really this would-be doctor should have made himself acquainted with his subject before he put his hand to paper, in the face of all the Vets of India; he certainly should have known that three times that dose, twice a day, will not produce the slightest ptyalism of the mouth in the period he describes, and that, as every real practitioner knows, 20 grains twice a day is required to

bring about actual and complete salivation in eight or ten days, old subjects yielding to its influence first.

These grave errors, Mr. Editor, certain to entail disappointment on those that put them into practice, added to the fact of literally calling those tuberculated inorganic masses of *inspissated pus* found in bursautee sores, "*kunkur* stones*," will be sufficient to convince the merest tryo in equine matters that nearly the whole of the treatise is futile and useless, and that Captain Apperley has wandered from his natural province in writing a medical essay—the conclusion being that what little real metal it contained, might have been separated from the dross, and communicated to his veterinary surgeon, through whom, with some valuable additions, it might have been published for the benefit of us all, and which might have been done without depriving Captain Apperley of one particle of the credit, if any was due to him. It would be presumption in me, looking at the date of my commission, to say whether Captain Apperley's treatment, when carried out in principle, by increasing the doses (and it does strike me that he has forgotten the units to his numerals) or in other words whether salivation and black wash would cure, or even arrest the destructive progress of the malady which is most important, as from what I saw of it last year in the 2d Light Cavalry, I believe it to be depending on a peculiar humid state of atmosphere known only in India during the rains, debilitating and relaxing muscular fibre, and I may say vitiating the system; thus lowering the energy and powers of reproduction (a property the horse possesses in a high degree when in health), that the granulatory process is either tardy or totally stopped; the consequence is that the sores extend and spread, the structure being destroyed as it goes, putting on that peculiar leaden hue, and resisting all efforts on our part to induce the healing process till the air becomes dry—when a change for the better take place, and they as rapidly heal as before they spread—but the structure is gone, and a poor attempt at a mend is attempted by nature to supply the lost integument which always ends in a large cicatrix for every sore, to tell you that the horse has had bursautee, and will have it again next year; rendering him valueless. As I said before, it is most important that we should have a remedy in time to prevent all this, and that, my experience tells me, must be a constitutional one, and I do hope the senior Vets. of India will enlighten us juniors, by giving the result of their long practice. In the meantime, I shall not be slow in making myself acquainted with its cause

* Stones of which roads are made.

and progress, having several cases now under treatment, which shall be the subject of a fair experiment, trusting that we shall together, be enabled to put forth a pretty certain treatment, if not a specific, for the cure of that bane of horse-flesh in India.

In conclusion, I beg leave to state, that I believe Captain Apperley's external treatment to be good as far as it goes, but I would not mix the sulphates of copper and zinc together; they are more efficacious separately. In the course of last year I depended on local remedies only (except in a few cases where I gave tonics) and at first I generally used the actual cautery, which always produces a fresh clean surface, after which I used a host of escharotics, including all those named by Captain Apperley, and adding the solution of the nitrate of silver; the great point appears to be in varying the application every day. I can also speak in praise of the green ointment which was used by my father 20 years ago, as a digestive, and I opine every bursautee sore ought to be covered with it to keep off the flies, as they not only prevent healing but they carry the virus from sore to sore, and from horse to horse, so much so, that I would rather my neighbour have a glandered horse in his compound, than one affected with bursautee, if his wounds were left undressed, and his stable without chicks.*

I trust Captain Apperley will excuse my taking the matter up, but I cannot resisting telling the Government and the public of India, through the medium of your valuable journal, that they must not place any reliance on his *specific* for bursautee, having already in two instances proved it a failure.

I am, Sir,
Yours faithfully,
THOMAS P. PAGE, V.S.,
Horse Artillery.

LAHORE, *Aug.* 25, 1851.

MORTALITY FROM CASTRATION.

By THOS. HURFORD, M.R.C.V.S., 12th Dragoons.

DEAR SIR,—I was rather astounded on being shown, by Western, the extraordinary rate of mortality attendant on castrations in Europe. I have often thought myself a *very* successful hand in *disposing* of some patients; but I am

* Blinds to admit air, and keep out flies, affixed to doors and windows.

thankful to say, in my most killing humour, I never approached that awful ratio. I have, as you know, operated on a great many horses; and I have been able to ascertain *to a certainty* that out of 478 horses castrated by me, in the 15th Hussars, I lost 14. This is 3 per cent., and I hope you will not consider that a high average, considering that the average age of the horses was 9 years 8 months, and that they were of all ages, from twenty down to four; that only 63 had not done work in the regiment; and that all the rest had been at work for a period varying from fifteen years to one—and you can guess the effect of *field-days* on stallions.

Truly yours.

*** Mr. Hurford ought to have described his *modus operandi*.—Ed. *Vet.*

TUBERCULOUS DISEASE OF ANIMALS IN INDIA.

By J. T. Hodgson, V.S.

You will be called suddenly to a horse which the native will inform you is mad. You will find the horse delirious, turning round and biting his sides; sometimes he will lie down and get up again quickly, or strike the abdomen with the hind feet. The skin is very hot; the pulse very hard and frequent, upwards of 80 in a minute.

Take blood from large orifices in both jugulars; produce fainting, if you can; if not, take away sufficient to lower the pulse, and repeat the bleeding if the hardness and frequency of the pulse continue; give an enema, with ʒij of Alöes dissolved in it; use the firing iron over the abdomen, and apply the mustard embrocation; give every ten minutes a little luke-warm water.

I can give you little hope of cure. In general, the horse dies; the reason being, the disease is not within reach of the only remedial means that could relieve, the taking off the pressure by opening the abscess, which causes intense inflammation of the mucous coat of the stomach; sometimes it bursts, and discharges its contents into the stomach, but not sufficiently early to relieve.

These tubercles were found in the stomachs of horses that had died, or were destroyed from other causes, without having produced inconvenience during life, as was observed by myself and others.

Tubercles in the stomach vary in size, from a pea to a walnut, and contain thick greyish or thinner yellow matter;

are situated in the cellular tissue beneath the insensible and mucous coats of the stomach, sometimes in the small and large intestines, and so far from being overlooked, as Dr. Willems supposes, (at p. 413, No. 67, *Veterinarian* for July, 1853,) have often been noticed by contributors to this journal.*

I beg leave to reply to Mr. Western, that "*iron*" was a misprint for *own*. In farcy, I adopted the same treatment as described by him.

My papers are only reminiscences of a Veterinary Surgeon, who left India in 1835, since which period many young men, with advanced medical knowledge to that I had, have gone to India, and to whom I look for, rather than to impart, information; especially from one of so long standing in the service, as is Mr. Western. Notwithstanding, I will offer a few remarks, as any one may do on what appears in a periodical.

I am sure it was not the intention of Capt. Apperley to give offence, by obtruding his treatment on veterinary surgeons, to whom the circular, to say the least of it, might appear as an indirect censure; and it was equally so to commanding officers, in my opinion. The fact is, the superintendent of the stud was, formerly, Mr. Morecroft, a celebrated veterinary surgeon; when, after his death, both became military departments, and a veterinary surgeon, who had before officiated as assistant for five years, again applied for a vacant appointment. He was informed, "It was not the intention of the Government that veterinary surgeons *should be eligible* to promotion with other officers at the stud." If the knowledge of breeding, rearing, management of horses in health and disease, rendered veterinary surgeons of equal military rank ineligible, why should these pretensions to such knowledge render other officers eligible, not only to promotion, but also to officiate as veterinary surgeons? It would, indeed, be difficult to answer these questions. We can have "*certain treatment*" here for "all the ills that flesh is heir to" for a few uncut postage stamps, and belief in the efficacy of a nostrum has sometimes cured; but cavalry horses cannot be cured in this manner, therefore, had Mr. Western forwarded his explanation, it would no doubt have been received, and communicated to the service in the same manner: it is not usual to deny facts, perhaps, witnessed by others. It appears to me, Capt. Apperley was successful from better stable management, cleanliness, and ventilation, and not by his treatment, or he would still have had cases to treat. It was

* There are upwards of twenty, under various names, in different animals, in the last five vols.

to the prevention of farcy (what is called malignant bursautee), a tuberculous disease, by those means in particular, I insisted in my paper; and in which the veterinary surgeon's duty has to be supported by the commanding officer (both would be to blame in having bursautee in a corps), and in which Mr. Western has been fortunate. To this, and the corps being mounted on *seasoned* horses, Walers or Persian Gulphers, it is that Mr. Western has latterly been without cases of bursautee; and as to those he had at Calcutta, seasoned horses, on outpost duty, if the stables, &c. were no better than in my time, would be liable to farcy (or malignant bursautee). It is not the *curing*, but the entire absence of tuberculous diseases that shows horses or other animals are properly managed.

Mr. Western writes, "The ulcer's primary appearance is precisely described by him; but at this stage, I unhesitatingly affirm, that, what Mr. Hodgson designates the tuberculous state, and Captain Apperley 'kunker,' never exists, but only at a later period, if the case has been unsuccessfully treated or neglected altogether." Certainly, this is the result of being kept in foul, dirty, unventilated stables; it is, as I have stated, malignant form of the tuberculous disease. In a note, it is stated, "kunkur is gravel—neither this nor tubercle is correct; it is literally osseous spiculi found there," true enough, osseous matter is one of the changes of tubercles in all tissues, particularly in horses, and in various ways; sometimes the cyst is bony, at other times, the centre or whole of the tubercle. If Mr. Western will have the goodness to refer to No. 67, *Veterinarian*, for July, 1853, p. 415, he will read, "In the same piece of skin I met with assemblages of granular kernels, in which there is a small nucleus. These kernels resist the action of acetic acid, and that is the precise character of kernels. It is absolutely as if there had been an abundant exudation in the derma." In case Mr. Western has it not, I have extracted this opinion of "M. Vankempen, a distinguished anatomo-pathologist," of the primary state of the derma; and as osseous spiculi is phosphate of lime it would resist the action of acetic acid, which kunkur, impure carbonate of lime, would not; so the test shews Capt. Apperley is wrong, as to the nature even of this state of bursautee tubercles; but, in the name of forceps, why must "these be carefully scooped out with the *finger?*" perhaps, there is *virtue* in a stud officer's finger, that the touch is the cure of the evil, and it is vain for veterinary surgeons to try, or try to breed cavalry horses either: for by Mr. Hurford's description of Bengal stud horses, in No. 59, *Veterinarian*, for

November, 1852, it is just that Mr. W. Percivall has described in his vol. ii, at p. 118, as most predisposed to phthisis, and of course, other forms of tuberculous disease.

But I do not blame Captain Apperley, whom I recollect only as a young sportsman, and, like his father, not unfriendly to veterinary surgeons. I never objected to anything offered for trial, by those who loved horses for sport. It was proved *not to be specific* in *farcy* many years past, but as an alterative. Mr. W. Percivall, in the last edition 'On Diseases of the Chest, &c.,' "gives in phthisis, a tuberculous disease, Hyd. Chlorid. gr. x, in the Plummer's ball, twice or thrice a-day, to continue so as to slightly affect the mouth," and, I am sure, not without experience of its benefit, or due consideration. It will be seen, therefore, in quoting so eminent an authority, I have not undervalued his treatment of bursautee.

If Mr. Western reads on to p. 415, he will find it there stated by Dr. Willems, that "the physical characters, the microscopical examinations, and the chemical analysis of the part where inoculation was made, prove that the local disorder produced by the inoculation has the greatest resemblance to the complaint, and the morbid lesions which are observed in the lungs of animals that have been diseased under the epizootic influences of pleuro-pneumonia." In my paper on the 'Contagiousness of Strangles,' in No. 31, *Veterinarian*, for July, 1850, I stated "that this form of the tuberculous disease (to which I attached what Mr. W. Percivall, in his new edition, calls a hybrid name), is, in general, the consequence of fever, from herding young animals; that we were aware, at the studs in India, that it could be communicated by inoculation, and that other young animals were also liable to similar kind of fever; and after the excitability is exhausted, by once having this fever, the young animals thrive, although again under the influence of the same exciting causes, without again being so liable to fever of any kind; for, as in the case of older colts or adult horses that have once had this fever, the exciting cause must be more intense, as very foul stables, being placed on shipboard, &c., to again produce fever; in common language, older horses are said to have become seasoned to this herded manner of living. I use the word herded, because this fever occurs to young animals in eastern countries that are not stalled, and under these circumstances the fever is in general mild, "common fever," inoculations from the local affections of which sometimes fail. "Whereas, when the fever occurs to closely-stalled colts, or older horses, it is a specific or

malignant kind of fever," inoculations from the local affections of which seldom fail, but produce tuberculous disease in some tissue: in general the glandular system, secreting or lymphatic, takes the course of the absorbent vessels and glands, superficial or deep-seated, and various forms of local disease in all animals. "That all young animals are subject to a similar kind of fever, from predisposition in the young animal's organisation, from delicacy of the tissues."

Where animals, as in India, are in the open air, this seasoning lasts a very long time, and is not as in Europe, where animals are closely stalled, only temporary. Young animals are very cheap in India; and had Mr. Western inoculated, as I suggested, he would no doubt have been able to have sent us some valuable information on that disease, now called in Europe, "exudative pleuro-pneumonia," which has had, as he will see by Professor Simonds's able report, the attention of government, and the consideration and experiments of very able men; and which, unless the French settle the matter, will by all accounts remain here, as the similar forms of disease are, in India, a vexed question. I should be glad to see my professional brethren there now able, from their sick-registers and notes, to prove, as Mr. Western has done in regard to bursautee, that seasoning animals is equally efficacious in preventing that incurable form of tuberculous disease, called "exudative pleuro-pneumonia." It is a subject they will see worthy their research, under the favorable circumstances they have for experiments of this kind.

The late Professor Coleman said "that, in old horses with glanders, the lungs frequently had tubercles, and he was of opinion the matter from the lungs was not infectious, as he had not been able to show it was glandered, and was capable of producing the disease, although the cause that produced it may be the same, and produce matter in both cases, some was not infectious; thus the secondary symptoms of the venereal disease is not contagious. It does not follow that though it is produced by the same cause it should take on the same specific action." Again, in regard to inoculation of farcy "by applying the farcy matter to the *cellular membrane below the skin*, you will not have farcy, not always glanders." The late Professor Sewell, at one time, said, "he could certainly produce tubercles in the lungs by inoculating with tuberculous matter taken from the lungs." Some have tried to produce strangles, by inoculating with the matter of strangles, and failed. At the stud in India, they succeeded, and produced such malignant forms of this tuberculous disease that they were glad to drop the subject, and thought the

less that was said about it the better, as it was not so mild as when the disease happened spontaneously. It will be seen by reference to my paper that I thought this difference arose from "the mild or malignant nature of the fever." The very same has happened in the inoculations from mild and malignant cases of pleuro-pneumonia, proving that the late Professor Coleman was right. "It does not follow that though it is produced by the same cause it should take on the same specific action." Dr. Willems rests on the specific action alone as being preventive, by inoculation of exudative pleuro-pneumonia; and in my opinion the question is not what occurs in other specific diseases, but simply whether by deep inoculation animals are seasoned for a limited period, which, with animals being fed for slaughter, is all that is required; and Mr. Paget is satisfied so far, and has practically settled it for himself. But he has yet to find out whether predisposition, in animals kept for a longer period, to other forms of tuberculous disease, remains. Mr. Tumbs thinks so of the vesicular epizootic, (as the late Professor Coleman) that it arises from the same cause. *Vide* No. 51 of the *Veterinarian* for March, 1852, p. 137. Inoculation will not enable their owners to keep cattle in close* filthy places, as they are now kept in towns and some parts of the country, in Europe, without being liable to disease in some other, perhaps incurable, form. I am not near enough the British Museum library, or I believe I could prove from history that epizootic diseases have always prevailed in some countries on the continent of Europe in times of *peace*. The epizootic mentioned was not during the wars of the Emperor Charlemagne; but when his dominions in Germany had enjoyed ten years' peace, and cattle had accumulated. Great numbers of cattle have been bred and reared in all countries,

* King Oscar's body physician, Dr. Liljevalch, has published a most interesting pamphlet on "the necessity for fresh air in barracks." He shows that the enormous mortality of the garrisoned troops in the chief European armies, that of England included, is largely owing to the small quantity of fresh air allowed them, especially by night. The ventilation system recommended by the author is that of M. Léon Diwoir. The quantity of pure air required by each soldier he estimates at 48 cubic metres, which no European army even approaches. The Swedish army regulation is based on only 240 cubic feet, or 8 cubic metres per man, one-sixth of the quantity indispensable for health. The consequence is that the soldiers are poisoned by carbonic acid gas. The European soldiery are the flower of their youth, but in France 19 in 1000 of these men die annually, while of the male population there is only a mortality (between 20 and 30 years of age) of 10 per 1000. In England the mortality in the Foot Guards, from consumption, is 14·1 per 1000, which is three times the average of the general population.

during the present peace, and in all countries have been affected with epizootic diseases. I observed the same results in India, in the province of Dekli, after twenty years' peace. Animals accumulated, and herds of cattle, camels, and sheep were diminished by epizootic diseases, but which diseases were always more or less prevalent with young animals, at particular seasons, older and seasoned ones not being affected; and where there were different breeds, it appeared in one herd and not another. Among buffaloes, in which varieties are not frequent, as in other animals, I did not see or hear of epizootic disease. The primary affection is the *fever* of domestication; and it is this fever, when it is *specific*, that seasons an animal, and not the local affection, which may be various. Mr. W. Percivall's 'Introductory Observations' begin with this fever; next comes the various forms of diseases, and the precautions to render the attack comparatively mild; even the Colonel's remark, at page 4, shows he knew about seasoning. How could milkers and feeders of cattle think they could do as they do, just the contrary with cattle, and be free from disease. I never knew or heard of camels, or cattle sent from the Slissur breeding herds, being affected with epizootic disease after having joined the army, as these animals had had specific fever while young in the herd, and were seasoned; how very different it is in Europe, cattle are bred in general by small proprietors, and being in small numbers of two or three, do not have this fever of domestication. All at once, round comes the purchasers, and collects these animals into a drove, and they are sold and distributed all over the country; no precautions are taken, but they are forced by high keep, perhaps are stalled in close unclean places; disease appears, and it is then said to be contagious. I do not deny the possibility, but is it not necessary to the production of the diseases with which they are affected. Having a specific disease, although it seasons animals for a time, it does not prevent them having other forms of disease: we daily have practical proofs of this. Vaccine disease, being specific, would be preferable as a prophylactic, temporarily, to the sanies of gangrenous lungs, for inoculation.

Hoping this will reach Mr. Western just in time for inoculation experiments, I shall for the present close this paper with an apology for the length of it.

FIVE CALVES AT A BIRTH.

By W. Garrard, Veterinary Surgeon, Ticknall.

Sir,—I have taken the liberty to forward a brief report of an unusual, and, as far as I am aware, unprecedented instance of *supernumerary birth in the cow*, thinking the same could not fail to interest some of the readers of your Journal.

The cow in question is owned by Mr. John Marshall, of Repton, about four miles from here. On Wednesday last she gave birth to *five live, healthy calves;* all of which are, at the time I write, alive and vigorous, and have every appearance of continuing so. They are all nearly of a size, and are larger and stronger than could be supposed. Four of them are bull calves.

The cow is by no means a large one, is eleven years old, of a mongrel breed, and has never produced more than one offspring at any previous gestation. I saw her two days after she had calved, at which time she was ruminating, and did not manifest any unusual symptoms of exhaustion. I may mention that the first four calves presented, naturally; the fifth was a breech presentation.

The circumstance has created considerable local interest. They are likely to prove golden calves to the lucky owner, who is reaping a substantial reward by exhibiting the unique family, at a charge of 6*d.* each to all comers.

Yours respectfully.

Ticknall, *Jan.* 25, 1854.

METASTATIC LAMINITIS.

By Charles Hunting, M.R.C.V.S., Durham.

Dear Sir,—In the *Veterinarian* for this month are three or four communications about laminitis being occasionally the result of pneumonia.

As the following interesting and somewhat unusual case of metastasis (for such was my opinion at the time) bears directly upon the point in question, I thought it might not be uninteresting to some of your readers. If you think it worth a place in your Journal, I should feel obliged by your inserting it in your March number.

Yours truly.

South Hetton Colliery, Durham.

On the 13th January, 1853, I was requested to see a black cart colt, three years old, belonging to Mr. John Cooper, in the parish of Evrington, labouring under an acute attack of enteritis, who had been so for eight hours previous to my being sent for. The treatment adopted consisted of bleeding, ol. lini, calomel, opiates, frequent enemas of warm water, and applications to the abdomen for several hours of blankets dipped in boiling water.

On the following day, at 2 p.m., my patient was much better, being quite easy, and the pulse down from 98 to 64; the artery soft, and easily compressible beneath the finger; the breathing easy, and 12 in number; my patient had also partaken of a little gruel and bran mash. The bowels not having responded to the aperient medicine, I gave ol. lini ℥ss, hyd. chl., ℈j; and continued the enemas.

On the following morning, between 5 and 6 o'clock, a special messenger came to say the colt was much worse, and was blowing hard and heaving at the flanks very much. On arriving at the place, I found the poor animal standing, in the loose house, with his fore legs abducted from the body; his nostrils greatly dilated; respiration 61 per minute, and very laboured; the schneiderian and conjunctival membranes intensely red; pulse full, much harder, and beating 76 per minute; extremities cold; and violent purging, approaching to tenesmus.

The treatment consisted of bloodletting; ext. belladonnæ, ʒj, opii pulv., ʒj, mixed in 3 quarts of thick white flour gruel; hot fomentations applied to the sides of the thorax; and ol. crotonis to the pectoral region; well clothing the whole surface of the body with blankets, and bandages to the legs; and giving pot. antim. tart., ʒss, nit. pot., ʒss, in warm gruel, every hour until ʒij of each were given.

At 4 p.m. my patient was very much relieved, but the fæces were still in a semi-fluid state. Gave opii pulv., ʒss; catechu, ℈j; cretæ preparatæ, ʒiv, in white flour gruel.

16th, 7 a.m.—Patient much improved since last night; respiration 24, and less laboured; pulse 56, and weak; surface of body and extremities warm; fæces nearly natural consistence; and has partaken freely of gruel and bran mash. Gave liq. ammon. acet. ℥ij; nit. pot. ʒij; ext. belladonnæ, ʒj; and enjoined a mash and gruel diet, with hay-tea.

8 p.m.—Still improving.

17th.—Considering my patient so much better last night, I did not hurry to see him this morning. At 12 a.m., a message came to say that the owner did not think the colt was so well, and was afraid the "cold" had seriously injured the left

fore leg, as he was so lame that he could not place this foot upon the ground. When I arrived, I found my poor patient lying (for the first time since the 13th) on his right side, with his fore legs extended from the body, apparently suffering great pain. A short examination convinced me that my patient was labouring under an acute attack of laminitis, principally of the left fore foot; the right being also abnormally hot, though it gave no evidence of pain on percussion being applied to the wall or sole; the hind feet were perfectly healthy. I now considered my case a hopeless one; yet, from the age of the animal, was induced to persevere. I therefore bled from both plantar veins, and placed the foot and leg, above the fetlock joint, in hot water, which assisted the hemorrhage greatly, the hot water bath being continued for eight hours, at a uniform temperature; after which, poultices were applied for three days, and sedative and aperient medicine given. The only remedy applied to the off foot was a linen bandage, kept constantly wet with cooling lotion, with the gutta percha skin applied over it.* The same was applied to the left foot, after the third day, and I think great benefit was derived from the use of it. In ten days' time the animal could walk comparatively sound. Mild blisters were then applied to the coronet, and the animal given several months' rest.

I saw the same horse about a month since working on the roads, going perfectly sound. The only thing observable in the foot, is that about an inch of the old wall has not yet been thrown off.

IRREGULAR STRANGLES.

By George Lewis, M.R.C.V.S., Monmouth.

Dear Sir,—Should the following case of irregular strangles prove sufficiently interesting for insertion in your valuable Journal, it is at your service.

A three years' old colt, the property of Mr. Bud, of Upper Field Farm, Herefordshire, five miles from this town, suffered from strangles; the usual treatment was resorted to with apparent success; but, in a short time, abscesses again formed in the parotid and submaxillary glands. These were freely

* Will Mr. Hunting kindly inform us how he uses the gutta percha skin? To us such treatment is new.—Ed. *Vet.*

opened and treated *secundum artem;* and now for a fortnight all went merry as "a marriage bell;" when, on Monday last, 13th instant, I received a summons to attend, "for the colt was again taken ill;" that about six o'clock that morning he was feeding well, and seemed anxious for food, and appeared quite well, when suddenly he reared up, broke the halter, fell backwards, and could not afterwards rise.

I found him in this state: total inability to rise; convulsive twitchings about different parts of the body; the limbs are suddenly stretched out and quiver violently; extremities of their natural temperature; eyes amaurotic; cornea shrivelled, and of a leaden colour; conjunctival and schneiderian membranes natural; at times the breathing becomes quickened, otherwise the respiration is only 7 per minute, and stertorous; respiratory murmur nearly natural; the head is sometimes raised, and thrown either upon the side or elsewhere, like a log of wood; the lower jaw hangs pendulous. I informed the owner that it was a cerebral affection; that I believed that an abscess or abscesses had formed upon the brain; that he might live for a few days; but that the case was quite hopeless. The owner being desirous of something being done for him, the head was being raised for that purpose, when an enormous abscess burst and discharged itself through the left nostril. This did not relieve him; nor did a dose of purgative medicine, &c.; for he expired on the evening of the 15th instant, remaining up to that period in the same state as when I first saw him.

I extremely regret that I cannot give a more minute and accurate description of the post-mortem appearances than are here appended; but I was prevented from doing so by a *Mr. Smith*, who devotes more of his time to the jolly god than is consistent with his *professional* avocation, (he styles himself *professional* upon his cards—"Smith, Horse Sergent, Farrier, Cow Leech, and Castrator;") this *professional*, who has lately emerged from under the care of our worthy governor of the county prison (for debt), and being now upon "the look out for a job," taking advantage of Mr. Bud's absence, went and inquired of the servants where the colt was, *and my opinion* concerning it; he "opened it," declared nothing to be the matter with the head, for he had "cut it right through," and must have seen it; but that his "*liver and lights* were *rotten;* but if he had seen him in time he could have "kured him," "*safe* to have kured him."

And thus, Sir, was I deprived of *inspectio cadaveris*, as anticipated.

Only half of the brain had escaped the hand of the "*pro-*

fessional;" this I carefully removed. There were still evident traces of the remains of an enormous abscess at the base of the brain: it appeared to have formed between the dura mater and pia mater, the former being in a state of disease, and appearing to have formed the sac of the abscess. I was confirmed in this upon dividing the optic nerve, for a considerable quantity of pus escaped from its theca. Upon cutting into the portion of the brain removed, an abscess with well-matured matter presented itself; this, of course, the owner could *see* and believe. Upon a minute examination of the brain (at home) where I was kindly assisted by an eminent surgeon who happened to drop in—the whole of the pia mater and dura mater were in a state of disease; their vessels enormously congested; there was also another abscess in the centre of the medullary portion, the whole of which was softened to a pulp. I was prevented from an examination of the medulla oblongata, the head being mangled from the body. "*The liver and lights*" were destroyed, so I was also prevented from ascertaining the state of their "*rottenness.*"

I am, dear Sir,

Yours truly.

Monmouth, *Feb.* 17, 1854.

VETERINARY JURISPRUDENCE.

(*Sittings in Middlesex, at Nisi Prius, in Hilary Term, before Mr. Baron* Platt *and Common Juries.*)

SPILL *v.* MOSS.

Mr. Edwin James, and Mr. G. M. Dawson, conducted the case for the plaintiff, and Mr. Prentice was counsel for the defendant.

This was an action on the warranty of a horse.

It appeared from the evidence of the plaintiff, who carries on an extensive waterproofing manufactory at Stepney-green, and employs as many as 1,000 persons, that on the 16th of September he had bought a horse from the defendant, a horsedealer in Smithfield, having stables in the Kent-road, for which he paid down £10, and was to pay a further £5 in a week, if the animal suited; the defendant agreeing to take another horse, at a value of £10, in exchange—thus making a total of £25. Prior to the payment of the money, the parties proceeded to the office of the clerk of the market, where the sale was registered, the horse being warranted as

a sound horse. The animal was thereupon led to his stables at Stepney-green by the defendant's man, who took back the exchange horse with him. He put the defendant's horse into harness, but found that, although he was only going at the rate of eight miles an hour, he was so bad in his wind that it was necessary to pull him up about every 100 yards in order to enable the animal to get breath. In fact, he was a "roarer," and not worth his keep. He consequently sent the horse back to the defendant, but he had never received back either his own horse or another in lieu of that which he had returned, nor had his £10 been repaid.

Cross-examined.—I am a waterproofer—that is, I make waterproof coats and other articles which are waterproof. Oh, yes; I advertise my business, too, pretty extensively. I never knew the defendant until the day upon which I made the purchase of this horse from him at Smithfield-market. The horse I sent the defendant in part exchange I had not bought out of a costermonger's cart. I did not say that I had been bid £50 for it; for, in fact, I never had an offer for it; and therefore I could not say so. When I saw the horse I thought it was a likely-looking one to answer my purpose; and, as I was at the time I saw it in want of one, why, I bought it; but after I had bought it I discovered that I had been taken in. That horse, though, was much better than the one sold to me by the defendant, for that was worth nothing at all (laughter); whereas the first horse was honestly worth £10. I think the defendant's horse was run up and down, but we could not hear him then, and it is only by the action of his body we can distinguish. I may say that I am very particular in buying horses. (Loud laughter.)

Mr. James.—But this transaction, I fear, some people may regard as not being a proof of that. (Renewed laughter.)

The *Plaintiff*, in continuation,—I keep good serviceable horses, and the one I sent to the defendant in exchange was not good enough for me. I did not tell the defendant that I had been taken in in the purchase of that horse. The defendant's horse was not trotted up and down, for there was no room for that; the horse was "scuffled" about like, and not trotted up and down. (Laughter.) It was a good-looking horse, but not capable of much work. After the sale, and the warranty had been registered by the clerk of the market, we went into a public house, where I paid the defendant the £10. I have heard that the defendant sold my horse for £10. My horse was very good for slow work. My horse is not what is called a "Bull-man," nor even a "whistler," but the defendant's horse was a regular "roarer."

(Loud laughter.) That horse would get into a condition, after a little going, just as though he had been dragged through a pond, and then wrung out again. (Renewed laughter.)

Mr. James.—Then he had not been waterproofed?

The *Plaintiff.*—Oh! no. (Loud laughter.) I only used the animal once, and I then took it to Woodford, in Essex, six or seven miles away from my place only. I did not drive the horse fast, for the best of all reasons—that he could not go many yards without my being compelled to pull him up, in order that he might get wind, and get his breath. (Loud laughter.)

Thomas White, the groom of the plaintiff, said that he had seen the horse in question in the defendant's stables at Bermondsey, and was in Smithfield at the sale. In the first instance the defendant said he would take £18 and "our brown horse;" but the "Guv'nor" said he would not give that money, but would stand £15.

Mr. James.—By "Guv'nor" you mean your "master," I presume; that term is more usually applied to a male parent, I believe. (Laughter.)

The *Witness.*—Yes; I means "master," but we usually says "Guv'nor," and not master.

Mr. Baron Platt.—Go on, then, and say "Guv'nor," for there may be a difficulty in your speaking of him as your "master," when such is not your custom. (Renewed laughter.)

The witness then went on to say that the "Guv'nor" and the defendant, after having arranged the terms of the sale, went and registered the horse, as a warranted sound animal, in the office of the clerk of the market. He believed they had a way in Smithfield of hiding the roaring of a broken-winded horse for a time by administering physic, and then shot in lard. When he took the horse back to the defendant, the latter expressed his sorrow that it did not suit, and said that he would find another, but he told him that that would not do, as the "Guv'nor" had had quite enough of buying horses from dealers, and therefore, that it would be of no use for him to send another horse, for the "Guv'nor" would have nothing to do with him. The defendant then asked him to go and have a glass of ale, which he did. They had some conversation about the business, and at length the defendant said that he had not sufficient money in his pocket to repay him, but that he would give it to the "Guv'nor" on Friday.

The assistant-clerk of Smithfield proved the entry in his book of the sale of the horse to the plaintiff by the defendant,

and also that the horse had been sold with a warranty. The price was £25.

Mr. Prentice, for the defendant, said that, if his instructions were correct, the jury would hear from his client, and his witnesses, a version of this transaction just as diametrically opposite as it was well possible to conceive from that given by the plaintiff and his witnesses. Therefore, if his client were right, he would, no doubt, entitle himself to a verdict.

The defendant and his witnesses were then called, and fully sustained the version of the matter which had been predicted by the learned counsel.

Mr. Dawson was proceeding to reply, when

Mr. Baron Platt said that the case was very limited. Had the horse been sold with a warranty, and was he unsound at the time of the sale? These were, in reality, the questions into which the whole matter resolved itself.

The jury said they were quite satisfied.

Mr. Baron Platt.—Well then, gentlemen, what do you say?

The *Jury.*—We find for the plaintiff—that there was a warranty, and that the horse was unsound.

Mr. Baron Platt.—Then, that is a verdict for the plaintiff. What is the amount, Mr. Dawson?

Mr. Dawson.—£21, my Lord.

The *Jury.*—We wish also to say that we do not believe one word the defendant has said.

Mr Dawson applied for speedy execution.

Mr Baron Platt.—Yes; when the jury tell me they do not believe the defendant, I think I should grant that.—Execution in four days.

COURT OF COMMON PLEAS, Westminster, February 6th.

(*Sittings at Nisi Prius, before Mr. Justice* TALFOURD *and a Special Jury.*)

HOPKINS *v.* TANQUERAY.

This was an action brought on the warranty of a horse, which was alleged to be unsound, to which the defendant pleaded no warranty, and that the horse was sound.

Mr. Serjeant Byles and Mr. Hawkins appeared for the plaintiff; and Mr. E. James, Q.C., Mr. Lush, and Mr. Campbell Foster for the defendant.

The plaintiff, it appeared, is a stockbroker in the city,

residing at Balham-hill, and the defendant is a merchant in the city, having a hunting-box at Market Harborough. On the 18th of May last, the plaintiff and defendant were dining together at the Parthenon Club, when the plaintiff heard the defendant say, that he was going to sell some of his horses at Tattersall's, and that one horse, called "California," would suit the plaintiff, and, according to the plaintiff's evidence, he said this horse was perfectly sound. Afterwards, on Sunday, the 20th of May, the plaintiff and defendant met at Tattersall's stables, and the plaintiff then examined defendant's horses, and said, if he had not so many horses in his stable, he would certainly buy "California;" he was the only horse in defendant's stud that could carry the plaintiff "over the vale," meaning the Vale of Aylesbury. He went into the stable to examine him, and, according to the plaintiff's evidence, the defendant said to him, he had got nothing to look at, for the horse was perfectly sound in every respect; to which the plaintiff answered, "If you say that, I am perfectly satisfied." The plaintiff bought him at the auction next day, without any further warranty, under the auctioneer's ordinary rules, for £294. Subsequently, at a dinner at a mutual friend's, Mr. Allnutt's, the defendant backed "California" for £50 to run a three-mile course over the country with gentlemen riders, to carry 11 stone, and Mr. Allnutt to choose the ground, and the horse was sent to a Mr. Baker's stables to train. There it was discovered that the horse was unsound, and that he had a slight enlargement in the suspensory ligament of his near fore leg, and he was taken from the trainer's and sent back to Tattersall's, the plaintiff demanding a return of his money under the warranty. The defendant denied the warranty, and the question was submitted to the arbitration of Mr. Allnutt, who decided against the defendant. This decision was, however, not abided by, and the question was submitted to the arbitration of Mr. Hall and Mr. Mortimer, who appointed the Hon. Robert Grimstone as umpire; and he decided, that, the horse having been sold at public auction without warranty, there was no warranty. The plaintiff, however, would not abide by this decision. In support of the plaintiff's case, three veterinary surgeons were called, who stated the horse to be unsound in the suspensory ligament of the near fore leg, visible to the eye and touch; and one of them said he was spavined in one of his hind legs.

For the defence, the defendant swore that in his conversations with the plaintiff he had never warranted the horse to be sound; but he said at the Parthenon Club, the

horse was sound to the best of his belief. He had given a large price for him, and had hunted him two seasons, and he believed him to be perfectly sound. At Tattersall's all he said to the plaintiff when he saw him in the stables examining the horse, was, "Holloa, you are trying to find out the screws; that's right; I don't think you will succeed." His groom swore the horse was perfectly sound when sold, and three veterinary surgeons—one, Professor Spooner, of the Veterinary College, swore they had examined the horse after his return, and had tried him in every way, and they declared him to be perfectly sound. The horse was subsequently bought for 145 guineas by Mr. Hall, solicitor, of Boswell-court, Lincoln's-inn, and had by him been hunted this season, and he was, in his judgment, perfectly sound, and a very valuable horse.

The learned *Counsel* for the defendant submitted that the representation made before the sale to the plaintiff did not amount to a warranty, the sale being afterwards by public auction without warranty.

His *Lordship* reserved this point, giving the defendant leave to move to enter a nonsuit.

His *Lordship* then summed up, directing the jury that, if in their opinion there was an unqualified representation by the defendant to the plaintiff that the horse was sound, with a view to the plaintiff's subsequently bidding for the horse, they must find their verdict for the plaintiff on the warranty; and they must also say, on the conflicting evidence, whether the horse was sound at the time of the sale or not.

The jury, after a short consultation, found a verdict for the plaintiff on both points submitted to them.—Damages, £142.

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

A Manual of Pharmacy, for the Student of Veterinary Medicine. By W. J. T. Morton, Professor of Chemistry and Materia Medica in the Royal Veterinary College. London: Longman, Brown, Green, and Longmans, Paternoster Row, 1854.

The broad and varied strides of improvement the science of medicine is, in its different compartments, year after year

making, at the hands of its hundreds of professors and cultivators, render it imperative on those who undertake to become its representatives on paper, in its newest or most recent phase, to almost unceasingly ply their pens in order to keep pace with this onward progress. Advances in chemistry carry with them advances in pharmacology, and both lend such material and important aid to therapeutics as necessarily to constitute preparatory acquirements to the mastering of the grand object—the treatment of disease.

Antecedently to the appearance of the first edition of the work before us, which was so late as the year 1837, what almost amounted to a void existed in this department of veterinary science. We had but the worn-out works of Bartlett, Taplin, White, and Blaine, and afterwards the 'Pharmacopœia Equina,' of Bracy Clark; all of which were superficial, and, for the greater part, inaccurately and unchemically got up, and of little use to those whose hands they happened to fall into. Our author's first essay, less developed than the subsequent editions, and not above half the size of the present volume, commenced quite a new era in this branch of our art: a fact to no one more evident than to the late Professor Coleman, to whom Mr. Morton dedicated his earliest labours. Since then he has had no competitor up to the present year. From the commencement of this year has made its issue from the press (as will be seen by an advertisement upon the wrapper of our January number), a similar production, from the pen of Mr. Finlay Dun, Lecturer on Materia Medica at the Edinburgh Veterinary College. It is probable that this work, however, (which we have not yet seen,) may not be altogether a rival to the work before us; since its title would rather lead us to infer that it enters more into therapeutics; though Mr. Morton has done so almost sufficiently in the present edition, to authorize him to entitle it "A Manual of Pharmacy and *Therapeutics*," &c.; the word *pharmacy*, which is but a branch of pharmacology, being simply the art of teaching the knowledge of the choice, preservation, preparation, and combination of medicines. In our notice of the fourth edition, we stated,—"The work would be more valuable did it extend its reports of the

operation and effects, and doses of medicines in use amongst us more than it has, beyond the walls of the college;" and, a little further on, we added,—"Nor need he (its author) be content with domestic sources of information, but extend his researches into the *continental* systems of veterinary pharmacy."

"There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy."

Shortly, we hope to be able to show how far such a step out of our vernacular provinces of information might or might not prove advantageous to us.

The present (fifth) edition boasts of upwards of 60 pages, in addition to the number possessed by the former (fourth) edition; which augmentation of space has enabled its author to make the following fresh introductions, besides giving new formulæ to several former preparations. Among the former, we may enumerate Pyroxylic Alcohol, Iodide of Arsenic, Compounds of Antimony and Barium, Mylabris (a substitute for Cantharis), Chloroform, Cullodion, Butea Seeds and Kosso (Vermifuges) Magnesium and its compounds, Cod Liver Oil, Castor Oil, &c.

The new fomulæ comprise, Potassio-tartrate of Antimony, Iodide of Potassium, Chloride of Zinc, &c.

As specimen articles for quotation, we take "Barium" "Chloroform," and "Butea Seeds:"—

"BARIUM.

"This metal was obtained by Sir H. Davy by subjecting its hydrated oxide to electrolytic action in combination with mercury, when an amalgam was formed at the negative electrode. The mercury being distilled off, barium remained. It may also be produced by passing the vapour of potassium over *baryta* heated to redness in an iron tube. The reduced barium is to be removed by means of mercury, and this afterwards distilled off.

"Barium is a metal of a steel gray colour, specific gravity above 2. Symbol Ba. Atom. 69. It rapidly absorbs oxygen, and when gently heated burns with a red light. Projected into water it decomposes it, evolving hydrogen, and forming a solution of baryta.

"*The Oxide of Barium or Baryta.*—Ba. O = 77, occurs native in combination with carbonic and sulphuric acids; but it may be procured by exposing the nitrate of baryta to the action or heat in a large porcelain crucible, when it remains behind in the form of a porous mass or gray powder. It has a strong alkaline taste, and combines rapidly with water, evolving much heat, and a *hydrate* is formed.

"Hydrate of baryta is soluble in 20 parts of cold and 3 of boiling water. This solution is a very delicate test for carbonic acid, becoming quickly covered with a film of carbonate of baryta when exposed to the air. It is also powerfully alkaline and poisonous.

"*Carbonate of Baryta.*—This compound, called *Witherite*, with the sulphate or *heavy spar*, is found in large quantities in Wales, Westmoreland, Cumberland, and other places. The carbonate, although sparingly soluble in water, is poisonous, probably in consequence of its being acted on by the acid in the stomach. Artificially it may be formed by adding to the nitrate or chloride in solution, an alkaline carbonate: generally the carbonate of ammonia is preferred.

"*Composition.*—

1 atom Baryta	= 77
1 „ Carbonic acid . . .	= 22
Equivalent . . .	99

"*Chloride of Barium.*—This compound is prepared by dissolving the native carbonate in hydrochloric acid, filtering the solution, and evaporating till a film appears, then setting aside to crystallize.

"*Composition.*—

1 atom Barium	= 69
1 „ Chlorine	= 36
2 atoms water	= 18
Equivalent of crystallized salt . .	123

"*Properties and Uses.*—The crystals of chloride of barium are flat four-sided tables, colourless, and transparent. About forty-three parts are taken up by 100 of water, and this solution is kept to test the presence of sulphuric acid or the sulphates; it being so delicate that a millionth part of sulphuric acid may be detected by it. Sulphate of baryta is insoluble in every menstruum except hot concentrated sulphuric acid.

Nitrate of Baryta may be obtained in the same way as the above, substituting nitric acid for hydrochloric. It crystallizes in transparent, colourless, octohedrons, soluble in 8 parts

of cold and 3 of boiling water. It is used for the same purpose as the chloride of barium.

"*Properties and Uses.*—Occasionally the barytic salts are employed in veterinary medicine, but with doubtful efficacy. They are nearly all poisonous, except the sulphate, which is harmless. The safest antidote, therefore, for the soluble salts, is the sulphate of soda; and in poisoning by the carbonate it has been proposed to use a mixture of vinegar with an alkaline sulphate. They give a greenish yellow tinge to the flame of spirit of wine, and with the exception of the sulphate are all soluble in dilute nitric and hydrochloric acids. A saturated aqueous solution of strontia is the best for the salts of baryta.

"Mr. Percivall has recorded several experiments with these compounds on farcied and glandered horses; from which it would seem that on which the most reliance, if any, can be placed, is the chloride of barium, given in doses of from ʒss to ʒij, and repeated in the course of the day, if found necessary. It is safer to begin with the smaller quantity, and very gradually to increase it; but should inappetence be produced, the agent must be immediately withheld for a time, otherwise poisoning may result, of which he adduces more than one instance."

"CHLOROFORMYL, *Chloroform.*

"Take of Chlorinated Lime	. . .	4 pounds,
Rectified Spirit	. . . .	½ pint,
Water	. . . . .	10 pints,
Chloride of Calcium, broken in fragments	. . .	1 drachm.

"Put the lime first mixed with the water into a retort, and to these add the spirit, that the mixture may fill only the third part of the retort. Then heat in a sand bath: and when ebullition first commences, remove the fire as quickly as possible, lest the retort be broken by the suddenly increased heat. Let the solution distil into a receiver as long as there is nothing which subsides, the fire being restored if it be at all needed. Add four times as much water to the distilled liquid, and shake all well together.

"Cautiously separate the heavier part as soon as it has subsided, and to this add the chloride, and shake occasionally during an hour; finally let the fluid again distil from a glass retort into a glass receiver.

"*Decomposition.*—The above formula is that given by the College of Physicians, which, according to Phillips, is a ready

and inexpensive mode of procuring the compound. The changes that take place are very complicated, resulting in the formation of a *terchloride of formyle* and a *formiate of lime*. The term chloroform has reference to its constituents—chlorine and formyle; the latter is an hypothetical base, consisting of C_2H, to which oxygen being added, forms *Formic Acid* C_2HO_3, an acid first discovered as existing in the red ant, but also produced when the vapour of pyroxylic spirit is brought in contact with spongy platinum. The difference between this acid and chloroform is seen by the following formulæ:

Formic Acid	C_2H+O_3
Chloroform	C_2H+Cl_3

"Chloroform is also obtained by the distillation of a mixture of lime and water, or a solution of potassa with *Chloral*, a fluid formed by passing dry chlorine gas, in large quantity, through anhydrous alcohol; and then subjecting the compound to careful and repeated distillation off sulphuric acid, and to subsequent rectification over quicklime.

"Fownes states that chloroform may be obtained as follows:—one part of hydrate of lime is to be suspended in twenty-four parts of cold water, and chlorine passed through the mixture until nearly the whole of the lime is dissolved. A little more hydrate is then added to restore the alkaline reaction, the clear liquid mixed with one part of alcohol or wood spirit, and after an interval of twenty-four hours, cautiously distilled in a very capacious vessel. A watery liquid, containing a little spirit and a heavy oil, collects in the receiver; the latter, which is the chloroform, is agitated with water, digested with chloride of calcium, and rectified in a water bath. This differs from the College formula only in the indirect employment of chlorinated lime, rather than the direct.

"*Composition.*—It will have been gathered from the above that chloroform is a terchloride of formyle, or

2 atoms Carbon	$6\times2=$ 12
1 atom Hydrogen	$=$ 1
3 atoms Chlorine	$36\times3=$108
Equivalent . .	121

"*Properties and Uses.*—Chloroform is a transparent colourless fluid, somewhat oleaginous in appearance, having a specific gravity of 1·48 to 1·5, very volatile, of a fragrant smell and sweetish taste. It is very slightly soluble in

water, but undergoes solution in ether, oil of turpentine, and alcohol. It readily dissolves camphor, caoutchouc, cantharidine, and the gumresins. It boils at about 140°, and is with some difficultyinflamed, burning with a greenish flame.

"Its vapour, when inhaled, produces insensibility, as that of ether does, but more rapidly and effectually than it. As an anæsthetic for the horse, it is only necessary to cause a piece of sponge, held in the hand in a piece of bladder, to imbibe from one to two ounces of chloroform, and bring it near one nostril during inspiration, while the other is closed. This being continued for a short time, temporary insensibility takes place. Smaller animals are quickly affected by it, and these also require no apparatus for its administration.

"It has been conjectured that the action of ether, chloroform, and the allied substances used for the purpose of inducing insensitiveness, from their being hydro-carbons, is referable to the conversion of their contained carbon into carbonic acid, and their hydrogen into water, by the oxygen of the blood. This, however, is disputed by Dr. Snow, who avers that they pass out in the expired air, unchanged, and are detectable in the urine, and even in an amputated limb, or a dead body. We have, at any rate, proof here given that they enter the blood, and they produce their depressing influence on the nervous system by temporarily paralysing the brain and spinal cord. Mr. G. W. Varnell destroyed a horse while under the influence of chloroform, by opening the carotid artery; and he found the blood to smell strongly of the agent, and not to coagulate as it ordinarily does.

"*Tests.*—Absence of colour, odour pleasant, its specific gravity not less than 1·48. Not soluble in water, nor does it redden litmus; quickly evaporotes when rubbed on the skin, producing coldness; does not coagulate albumen; and remains colourless when agitated with ether."

"Butea Seeds for Worms.

"Mr. Western, V.S., Madras Horse Artillery, says, 'he has used for many years, with perfect success, the seeds of the *Butea frondosa*, a tree growing in India, the juice of which, when evaporated, becomes a hard astringent substance, known in commerce as East Indian Kino. The lac insects also are found on the smaller branches and leaf-stalks of this tree. The seeds are thin and flat, kidney-shaped, and covered externally with a red epidermis; breaking with a starchy fracture, and having a slightly astringent taste, with

a pea-like flavour. Their watery infusion, which is of a pink colour, becomes of a deep green on the addition of a persalt of iron, showing the principle in it to be allied to, if not identical with *catechin*.

"Mr. Western gives two drachms of the powdered seeds, made into a soft ball, for three consecutive mornings, and on the fourth he combines with the same quantity a purgative agent.

"Mr. T. Hagger informed me that he was in the habit of resorting to the betel nut, the seed of the *areca catechu*, for the same purpose. Whenever indications of the existence of parasites were perceived, such as a staring coat, loss of appetite, and impaired condition, his plan was to withhold half the usual dose of aloes, and substitute for it one or two drachms of the betel nuts in powder. For worms in the dog, he found them equally efficacious, and he further states that the natives invariably use them as anthelmintics. To Mr. Western I am indebted for specimens of the flowers and seeds of this plant. Probably the beneficial effects of both of these agents may be referred to their astringent tonic action; for by increased tone and vigour being given to the tissues, worms no longer find them a favorable habitat. In the same way, the simple vegetable bitters, as wormwood, rue, and quassia, have been found to act, by inducing a healthy state of the digestive organs, and not by their being offensive to worms, as was once thought. Kosso, or *brayera anthelmintica*, the flowers of a tree growing in Abyssinia, and used there for destroying worms for more than two centuries, has been tried with questionable results for *tænia*. Its action is that of a purgative, although analysis gives the presence of tannic acid, to which its toxic influence on the worm has been attributed. Possibly its expensiveness will preclude its general use for the horse; to which must be added the infrequency of this parasite in him; the *lumbrici* and *ascarides* being far more commonly met with; and for the latter, oleaginous purges and enemata will prove the most effective agents for their removal."

"Morrhuæ Oleum, *Oil of Cod.*

"This oil is both imported and procured in this country from the liver of the cod fish (*Oleum Jecinoris Aselli*). It is obtained by boiling the liver of the fish, and also by allowing this organ to undergo decomposition by exposure to the sun, when the oil escapes, and is caught in any convenient vessel.

"When properly prepared, it is straw coloured and trans-

parent, having the smell of the fish, and an oily and somewhat unpleasant taste.

"*Composition.*—Dr. Jongh, having analysed cod-liver oil, found it to consist of 'oleate and margarate of glycerin, some biliary matter, with traces of butyric, acetic, and other organic acids; also of iodine and bromine, and a very minute quantity of resinous-like matter, termed by him *Gaduin,*' supposed by Phillips to be an impurity arising from partial decomposition of the oil.

"The oil of the liver of other fishes has been used in the same cases as cod's-liver oil, and why not? Such, for instance, as the ling (*Lota molva*). Lately in India, Presidency of Madras, several fishes have been found to furnish an oil equal in medicinal action to that of the cod; such as the *Seer*-fish, or *Vungarum;* also a species of shark, called the white shark, the oil from which is remarkably pure and very efficacious as a therapeutic agent; and a variety of skate, called *Therika,* the oil from which has been found superior to any of the other kinds.

"Analyses of these oils having been made in England, they have been found to contain the same proximate principles as the cod-liver oil, and the same elementary substances: although, perhaps, in appearance a little improvement might be made by filtering them at a low temperature, as they contain a somewhat large quantity of insoluble matter.

"One of the tests applied to cod-liver oil is sulphuric acid, which develops a violet colour, depending on the reaction that obtains between this acid and biliary matter in the oil, to which, by some persons, its efficacy has been attributed. As this is common to the oil obtained from the livers of most fishes, there is no reason why one kind of oil should not prove as valuable a medicinal agent as another.

"*Properties and Uses.*—The dark coloured, strong smelling, or rancid oils, are not considered fit for use; yet many prefer the unpurified oil to that now sold in the shops under the name of 'Purified Cod-Liver Oil.'

"For many years this oil has been resorted to medicinally, but only of late it can be said to have come into general use. It has been considered by some writers as an alterative, and by others as an anti-scrofulous remedy; its action by them being thought to be owing to the minute quantity of iodine and bromine found in it. The probability is, that its efficacy is rather referable to its becoming assimilated; it being, in the popular sense of the term, nutrient matter, since animals have been found to become very fat during its administration.

"It has been resorted to in cases of debility, accompanied with emaciation, supervening inflammatory attacks, and also influenza in the horse; threatening the formation of tubercles in the lungs, or phthisis pulmonalis. It likewise has been found to arrest the progress of chronic diseases, especially of respiratory organs.

"The dose may be eight ounces at first, given two or three times in the day, and which may be gradually augmented to double this quantity, withholding it for a time should inappetence or nausea take place.

"*Tests.*—Its colour, taste, and smell, appear to be the only tests on which any reliance can be placed."

In conclusion, we feel pleasure in repeating the expression of our warmest recommendation of the 'Manual' to the veterinary student, and, we may add, to such veterinary surgeons, likewise, as feel the want of a pharmaceutical remembrancer; inasmuch as they will find, in the present edition, that matters are brought up to the existing standard of pharmacological science, at the same time that it bears ample evidence of enlargement, with improvement, over preceding editions.

Foreign Department.

ON THE BOT (OR ŒSTRUS) OF THE HORSE.

By Professor Guiseppe Lessona.

As to the number of the species of those insects whose *larvæ* inhabit the stomach of mucolactylis, contrary to the accounts of Bracy Clark, Meigden, Macquarr, and others, in my opinion, there is but one; though there exist slight differences in the colour of the down of the face, in the hair upon the chest, in the rings round the abdomen of the animal, such variations are but accidental, dependent on the locality in which they happen to be found; having myself proved that such insects as come out of larvæ that have been lodged in rotten oak trees are of a darker colour, while such as come out of the dust of the poplar tree, or out of sand, are lighter coloured, and clearer. However this may be, the lodgment of larvæ in the œsophagus, stomach, and duodenum is

not sufficient to establish the proper character of the species. The fact, however, is accidental and insignificant. Whether found isolated, or in small or large groups, we shall always discover small, large, red even to intensity, and pale larvæ.

I do not know how it happens that, in a herd of colts, there are individuals in whom larvæ infest the œsophagus, not beyond the œsophagus, up to the time they attain about half of their growth; while in others they do not stop here, but proceed straight to the stomach, and remain herein up to the eve of their first metamorphosis, when they make their exit to fix into the posterior part of the rectum, from which they become detached, according as their development gets completed. Some larvæ are always smaller than others, and are often found isolated beyond the pylorus, though still cannot be viewed as a particular species; which is owing partly to migration, and partly to the death of the horse, whose circulation has ceased, and with it the temperature of the body. Under such circumstances, the stronger larvæ detach themselves instinctively, to go in search of aliment and heat. In general, these larvæ are found the more scattered about on the intestine according as the death of the animal takes place nearer to the month of August.

These observations being premised, I shall give the description of such species of bots as are mentioned by the best authors, in order to afford my readers an opportunity of judging if I be correct in admitting but a single species of horse-bot, different, be it understood, from that described by Vallisnieri, who believes it to breed within the intestines of the ox, and that on occasions it has proved the cause of the bovine pest which raged in his time; different also from another described by Linnæus, which is in the *hypodermis* of the ox. The characters of these œstrides being given, I shall extend my observations to their manner and habits, speak of the events I have observed through the presence of their larvæ in the gastric cavity, especially of colts, and place at the conclusion of my investigation the means I have made use of for the expulsion of them from the bodies of animals,—an object of the greatest interest in practice, and that to which our Journal is principally directed.

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1.—HORSE BOT.

(*Œstrus Equi*, Clark; *Œstrus Bovis*, Linn.; *Gastrus Equi*, Meigen.)

This species is common in the south of Europe and in the East. The female deposits her eggs on the hair of the tibial

region, on those of the shoulders and flanks of the solipede; the larvæ are immediately hatched, produce an insupportable worrying itching; the animal, to relieve himself, licks or bites himself with his nippers; at which times the larvæ cling to the tongue or the lips, and being swallowed, proceed to stick upon, first the œsophagus, and then the stomach.

2.—SALUTARY BOT.

(*Œstrus Salutaris*, Clark; *Gastrus Salutaris*, Meigen.)

Existing in solipedes in a state of freedom, in autumn, in England. The English veterinarian, Bracy Clark, is of opinion that the larvæ of this diptera, which inhabits the stomach of the horse, promote digestion. It is readily seen, however, how arbitrary this assertion is, whether he ascribes such a property to a new species different from the original, or whether it be one which has no existence; there being all the difference between doing no harm in small numbers, which is common to the other species, and being useful.

3.—HEMORRHOIDAL BOT.

(*Œstrus Hemorrhoidalis*, Linn.; *Gastrus Hemorrhoidalis*, Meigen.)

To be found throughout Europe.

The female deposits her eggs in the vicinity of or within the nose of the horse; and through being licked they become transported into the intestinal tube, wherein they are hatched. But, as we shall see by-and-by, it is still the original species depositing her eggs, through forced circumstances, at one time upon the nose, at another upon the commissures of the lips, or upon the cheeks; and such naturalists as have maintained the contrary have not correctly observed the habits of the insect. Bracy Clark does not admit this species; but he describes the following one, which, as may be seen by its characters, is still identical with the first or original one.

4.—NASAL BOT.

The larva of this bot inhabits the œsophagus of solipedes. And these constitute the several species described by the authors we have cited as being proper to Europe, with the exception of a fifth species, described by Brongniart, under the name of *œstrus flavipes;* a bot with pale yellow feet, smoother than any of the others, which he had found in the Pyrenees, without learning anything about its habits. From the characters of the first four species, it will appear evident from the grub, lest their progeny be lost, that it is not upon

the very slight differences which exist, that would incline us to consider them as simple varieties rather than as constituting so many different species. From what we shall say further on, it will in truth appear that there is but a *single* species, as I admit; and that is the one whose larva is found in the stomach of the horse, in the duodenum, in the rectum, &c.

Habits.—Among the immense family of dipteras, the tribe of bots is one of the most singular, as well on account of its appropriate organisation as for its habits, and it is through the exterior differences of organs, which serve as the basis to the characterisation of these beings, that we find so much divergence of description among those who cultivate the natural sciences, relatively to the place assigned them in the classification of this order of insects; for if, in some respects, they approach the nature of *syrphides*, the absence of the horn in some species, and the shortness of the antennæ, throw them out of this division; if the character of their wings and the appendages of their locomotive organs are indications of power of flight in certain species; in others they are found less, and cannot on that account be placed together with the *anthra*, from which, again, they differ through modifications in the oviduct, simple in some, bifid and complex in others; often very strong, and destined to perforate the skin of the larger herbivorous quadrupeds. But my object not being to break up dispute on this scientific point, I shall leave it in the hands of naturalists. As to the consideration of the presence or absence of organs of mastication, a frequent anomaly in the order lepidopteric, I shall make no opposition to their classification. From recent researches, M. Boisduval, taking no longer any account of the buccal organs in this order of *articulata*, observes, in particular, the form of the antennæ, in order to settle the principal divisions of butterflies.

In general, all the œstrides live but a short time after they come to perfection. After longer or shorter remaining in the grub form, transformation takes place into the winged insect; the sexes approach each other, copulate, and, shortly after, the male dies. The female becomes engaged in carefully laying her eggs; then she likewise dies. Each species chooses a fit place for the future larvæ; but what astonishes most the observant naturalist, is to behold the same species changing its instinct according to circumstances, while it evinces a knowingness quite extraordinary for the preservation of its progeny. The earliest female flies, for example, which appear in the autumn (instead of depositing their ova upon the longest hairs) if it be wet weather, or if they have not been able to lay their eggs as ordinary, or should they be late in their exit,

deposit them upon the hair of the nostrils, the lips, and the cheeks. There they deposit their eggs, in order that, being ready to hatch, through a sort of incubation effected in the egg, they more readily find their first place of lodgment.

The *hypodermes* accomplish their metamorphoses at the end of the spring, at the very period when the large ruminants are changing their coats, when it is easier for the insects to perforate the skin with their oviduct, to deposit their eggs in it. The *larvæ* of all the œstri have a conical form; their mouth is fortified on the sides with horny hooks, by means of which they fasten into the mucous membrane and cellular tissue; and between the tenacula or hooks, they possess an organ of suction, which varies according to the species. The rings around their body are clothed with downy hair, rigid and thin, which performs the office of locomotive organs; these hairs changing their direction on the posterior segments. In some species, at the most bulky end of the body, there exist stigmata.

In humid, cold autumns, many female œstri of horses die without laying any eggs; on the contrary, during hot and dry autumns they become quite a plague to animals. At such seasons, all quadrupeds at liberty retire into the thick of bushes, in the depth of forests, where they rest during the heat of the day. Should the pastures be without hedges or bushes, they will ascend elevated spots, where they find more current of air, and there pass the day, to descend after the heat is over; or, in the absence of such rising grounds, where rivers or streams of water are to be found, horses will call one another together, about ten o'clock in the morning, form a troop, elect a site where the water is shallow or where there happens to be an eddy, and turning their quarters to the wind, endeavour with the feet and the tail to make a splashing in the water, and thus deliver themselves from the torment of the œstral flies, who fortunately shun humidity.

Woe be to the traveller who, in Sardinia, on the Pyrenees, in Sicily, &c., suffers himself to be taken by surprise on horseback, during the time the sun is out, in the month of October: he runs a risk of being unhorsed, especially should he happen to pass some woody part where such flies have assembled in great numbers. The only expedient in that case is to take snuff or chew tobacco, or to wrap up some of either in one's handkerchief, dip it in the water, and rub the horse's skin with it; the odour of it scares the flies, and they make their escape. Those who take snuff ought to throw some into the nostrils of the horse, for insects which are unable to lay their eggs upon the hair will endeavour to

deposit them in the nostrils, which will become so tormenting as to create great danger to the rider.

There exists a great contrariety of opinion as to the effect of bots on the animal economy; some arguing that, be their number what it may, in the various sites they are found no harm results, or that they occasion death; while others contend that they have seen angina of the pharynx, œsophagitis, and gastritis excited by their presence in large numbers; though, by the other party it is said, such inflammations owe their rise to other causes. These varieties of opinion seem to me to admit of reconciliation by reference to age, and breed, and temperament of the horse; the number of such parasites, and places whereto they fix themselves; the climate in which such observations are made; and, lastly, the morbid complications.

In 1824, the first year of my entrance to the royal stud at Sardaigne, about the middle of July, I perceived several of the colts, in their second year, not thriving; while others in the same herd, of the same age, were keeping up good condition. Under these circumstances I deemed it best to make a separation of them, in order to transfer the non-thriving into a richer pasturage. More than eight days passed, when, going to visit the pasture according to custom, to my great surprise one was missing; I searched everywhere, but could not find him. It struck me he might be dead, perhaps: seeing at a distance some birds of prey, I soon discovered the carcase. I could find, on examination, no other morbid signs than perforation of the stomach, not far from the pylorus, opposite the liver, through which many bots had escaped, and were fixed to the peritoneum, while others were swimming in fluid which had run out. Inflammation was perceptible all through the lining of the duodenum. I lost no time in having the other colts taken up from grass, and exhibiting to them all kinds of anthelmintics, with rich provender, &c.; for all of them had pallid mucous membranes, yellowish tinge of sclerotica, dilated pupils, feeble pulse, tucked-up flanks, with lean condition, bordering on marasmus; excrements dark coloured, and exhaling an odour fetid, and *sui generis* so, with a long train of mucous matter following their discharge, burning powdery, and turning saffron-coloured. One of the colts died, and his opening presented three perforations at short distances apart; but, though so small that scarce a nut could pass through, had given issue to liquid matters, in which were found bots and alimentary matters. The anthelmintics, such as calomel, root of malefern, castor oil, &c., were employed in vain.

The failure of vermifuges was enough to discourage me in my new office; but the fault was not mine, and the colt fell a victim to suffocation; and three days afterwards, a fourth died. The former had collections of bots in the œsophagus and pharynx; the other, who died in the midst of convulsions, showed symptoms of acute gastritis, and a large quantity of bots were adherent to the mucous coat of the stomach which presented the same coloration. A certain number of bots taken from these various situations were sent, in alcohol, to Professor Bonelli, for his opinion; and I received an answer from this celebrated naturalist to say that *they all belonged to the same species.* The ten remaining colts, as the autumn advanced, passed numbers of bots, and after that improved in condition and quite recovered.—*Réceuil de Méd. Vét., de Decemb.* 1853.

AUGMENTATION OF THE VETERINARIANS OF THE FRENCH ARMY.

Décret Imperial, augmenting the number of Assistant Veterinary Surgeons of the 2d Class.

"Napoleon, by the grace of God and the will of the Nation, Emperor of the French, to all present and to come, greeting.

Pursuant to the decree of the 28th January, 1833, directing the organisation of the Veterinary Surgeons of the Army; considering that two new remount establishments have been formed, one at Nevers, another at Favernay, and that the new mode of purchasing horses of remount for the army requires the concurrence of two veterinarians for the entire year at the establishments of Caen, de Saint-Lo, and Alençon;

At the showing of our Secretary of State for the War Department,

We have decreed and do decree as follows:

Art. 1. The number of Assistant Veterinary Surgeons of the 2d Class, fixed at seventy-six by the decree of the 28th January and 29th February, 1852, is augmented by five, making the present total eighty-one.

Art. 2. Our Secretary of State for the War Department is charged with carrying this decree into effect.

Given under our hand, at the Palace of the Tuileries, 3d December, 1853. Napoleon."

By order of the Emperor:

To De Saint-Arnaud, Marshal of France,
and Military Secretary of War.

Home Department.

THE PUFF BIOGRAPHICAL.

When the ingenious Mr. Puff enumerated before his sneering but diverted audience the various arts of practitioners in panegyric or professors in the art of puffing, and dilated, with all the affectionate partiality of an author, upon "the puff direct, the puff preliminary, the puff collateral, the puff collusive, and the puff oblique, or puff by implication," he evidently thought the art he professed had been brought to a state of perfection. Poor Puff! He would have straightway hanged himself could he have foreseen how he would have been surpassed in the latter half of the nineteenth by the invention of the puff biographical.

Some three or four years ago, a certain versatile contemporary, no doubt finding it necessary to add some new attraction to keep the last few sparks of life together, and satisfied with anything which imparted a show of light, even though it were but a phosphorescent gleam of rottenness, began the publication of a series of *so-called* biographies of living members of the profession, illustrated by hideous caricatures, dignified by the name of likenesses. This plan has since been taken up by rival hands, and executed in a manner yet more contemptible. Week after week has one of these biographical sketches and portraits appeared in one or other of the rival books of medical beauty, issued in different parts of the Strand; and, strange to say, the subjects have not only been young, pushing surgeons, or "distinguished" specialists, but some of the *dii majores* of our art have undoubtedly assisted to perfect the practice of the professors of this new species of puff. There can be no question of the truth of this charge; for the sketches have generally contained such family details as the subject of the portrait, his brother, or his wife, could alone have supplied. One "distinguished ophthalmic surgeon" is decended from a family which held lands in Wiltshire since 1437, and is collaterally connected with the Fitzbattleaxes. Other surgeons and physicians, whose position should have placed them above temptation, inform the world who was their wife's maternal grandfather, where their father lived, and what a distinguished oriental scholar or practical chemist he was; whom their grandfathers married; how many brothers and sisters they had; how an elder brother made important

inventions in clearing lace or bleaching starch; where the future head of the profession went to school; and how, in the golden age of innocence and apples, when a good little boy in frock and trowsers, he got a prize and was paraded through the streets in triumph with fife and drum; where he lodged when first he began practice; where he first put his name on the door of his residence; when he moved into a larger house; how, when his banker failed, he let his first floor; who his first cousins were, and how they became first cousins by marrying an aunt; what celebrated persons he numbered among his acquaintances; and how he is "animated by strong religious feelings, and delights in sacred literature." These are the men who parade before the world copies of private notes sent to them, to say nothing of specimens of private note-books and statements of the yearly amount of their fees. When all this appears in connexion with a copy of a daguerreotype, taken but a few days before the publication of the biography, is there not some ground for the suspicion that the information was payment for the fulsome eulogium which follows upon the classical treatises, the celebrated physiological researches, the steady and successful operations, the lightness of hand, the never-failing coolness, the fertility of resource of one—upon the "keen glance, tempered by commiseration," and the firm heart, which "owns some touch of pity, while the *lady's hand* performs its office with unerring precision" of another,—upon the refined mechanical taste of a third, to whom nature has not been sparing of her favours,—upon the judgment displayed by a lover of the arts in "the design and erection of his suburban residence," with full details of this *bijou*, its spacious hall, tesselated floor of polished marble, the grouping of the statues, the classic *bassi rilievi*, the graceful antique vases, combined at the "Sabine farm, where the Mæcenas of Wimbledon delights to pass the summer evenings in the society of an amiable and accomplished wife." Disguise is absurd. The bargain, if not expressed, must have been understood, and the measure of the quackery is filled up, after a description of the acquirements of the sitter for the portrait, by an account of the line of practice he principally adopts, and the numbers of his patients; particulars of his mild and affable bearing, polite, agreeable, unaffected manners; and an advertisement that he may be found daily, Sundays excepted, at number something, Blank-street or square, from nine to one—or, that having "overcome his unjust prejudice against specialists, he has fitted up his residence for the reception of patients." If any doubt could exist for a moment as to the nature of the

transaction, it would be set at rest at once by the treatment those men receive who have sufficient good taste to despise the puff in any form, and sufficient moral courage to refuse the charming of the puffer. The delightful villa on the banks of the Thames is then converted into a mansion, where the rooms are "of a questionable fragrance, something between musty and musky;" and the stern moralist is told to "dye his curtains, French-polish his tables, and dry his carpets in the sun." We hear no more of agreeable manners, but a great deal about a "sacerdotal cut," a "solemn countenance, and unwrinkled white neckcloth;" and, as a warning to all who would rather not have anything disagreeable said of them, the recusant is denounced as a "strait-laced, artificial, emasculated ascetic."

Seriously, the puff biographical is gross quackery. It must be stopped. The books of beauty are circulated among a gullible public, and must serve one unworthy end of their publication,—injuring the modest, meritorious man who would rather starve than be looked upon as the "literary companion and helpmate" of the biographers or their employers, and assisting the pushing man who is not afraid to increase his fees by advertising his Norman descent and charming affability, even though he lose his own self-respect, and the esteem of all whose good opinion is worth having.

We trust that these remarks will not be supposed to apply especially to Mr. Gay. He but followed the example set by men in a far higher professional position than himself, and he and they must be judged by their professional brethren, not by the ignorant lay committee of the lowest of our hospitals. —*Med. Times*, 14*th Jan.*, 1854.

THE ANATOMY OF QUACKERY.

Quacks flourish everywhere! This metropolis is overrun with them, and every city and town in the provinces has its share. Even our villages are not without their freebooters in medicine and hygiène. The public health is compromised by their ignorance; and the prospects and pecuniary position of individuals are, not unfrequently, injured or destroyed by their avariciousness and knavery. The pest of quackery, indeed, sits like an incubus upon the people; and both the moral and physical welfare of the nation suffers for the aggrandisement of a few. The inroads of cholera, or the ravages of war, never fell with such unerring certainty, and

with such calamitous effect on society, as do the operations of charlatanry and empiricism. Morbific, rather than curative, they injure where they should afford succour, and destroy where they should build up. We earnestly implore a just legislature to put a stop to the career of these marauders, and to protect our families and countrymen, and future generations from the blight of their vile doings; and to wipe from the character of our government the degrading blot of complicity with quackery. We most earnestly desire that England shall no longer be sneered at by the inhabitants of Continental nations as the "*paradise of Quacks*," and that the qualified practitioner in this country, as elsewhere, shall receive that protection, and that encouragement and patronage in return for his assistance, which his skill and qualifications so constantly deserve.

If the observer has been surprised at the astonishing development of quackery in London, he will be equally surprised at the extent of its ramifications in the provinces. No city, town, nor village, is too insignificant for its appropriation and spoil. In the smaller places, and in thinly-populated localities, as well as in the purlieus of many of our larger towns, the common quack is too poor and humble to assume the airs of the aristocrat, or the appearance of the millionaire. On the contrary, he is generally "an ignorant drudge, ripe for anything," and merely superadds "doctoring" to some other trade or calling, for the purpose of "eking out" an otherwise too scanty livelihood. In many instances, he is the veterinarian farrier, or horseleech of his village. In some cases he is a "sugar baker," and luxuriates in the manufacture of "toffy" and "lollipops," which he sells, together with worm-cakes and corn-plasters, at the neighbouring markets and fairs. Sometimes he is a "wholesale vendor of everything," and embarks in the sale of castor oil, epsom salts, and medicinal herbs, for the sake of doing "a little smarter business." At *first*, he merely sells the remedy when it is ASKED FOR; *next*, he both ADVISES and SELLS IT; *lastly*, he SEEKS PATIENTS, and PRESCRIBES HIS OWN NOSTRUMS. He now commonly gets "doctorized" by the simpletons who pay him for his disservices. At length his ear becomes so habituated to the lie, that he adds M.D. to his name, and dreams that he deserves it. In a few years he also appends M.R.C.S., or some other equally high-sounding initials, and positively declares that he is a "matriculated member of the University of Dougham," "Consulting physician to the Court of Kamtschatka," and "sole lithontripist to her Majesty Queen Pomare." He is now, perhaps, able to get a decent

living, and occasionally to indulge in some little luxuries; but, in most cases, he "grubs on," a mere village notability, and seldom rises above the struggles of competition, or the dread of the workhouse. Another variety of the poor quack springs from the Doctors' medicine-boys and livery servants, and the druggists' porters. These are a grade more enterprising and ambitious than those just named. By impudence and daring, and some bold stroke for fortune, they sometimes rise above their compeers in quackery, and suddenly emerge from rustic obscurity or suburban littleness into the full blush of quack-grandee-ism. In not a few cases we have met with, the common hedger or gardener has become an *herb collector*, then an *herbalist*, and, lastly, a "*Coffinite*," with less proportionate increase in his own revenue than in the bills of mortality of the district where he resides. Such is the origin of the majority of the poorer class of quacks of our villages and small towns. In the larger towns and more populous neighbourhoods an entirely different race of quacks appears. Here we have men who make the same pretensions and display as the more notorious London quacks. Between the two extremes there are numerous grades of ignorance and success, all equally dirty in their practices, and equally unworthy and despicable. It has been our lot to see a great deal of provincial as well as of metropolitan quackery; but if we were asked, "What description of quacks are the most dangerous and culpable?" we should be unable to answer the question. The vagabond who vends his "worm-cakes" at sixpence the packet, inflicts as great an injury on *one* class of society as does he of the gilded mansion with his costly balm of Syriacum on *another*. The proprietors of soothing-syrups, vegetable pills, specific lotions, and universal ointments, are equally despicable and degraded, and the effects of their doings are the same, whether they live at the village of "Clist," or in the town of Liverpool. The humbler quack quacks the villager out of his hard-earned shillings; the quack kings do the same for the citizen with his gold.

Although, as just pointed out, quacks abound everywhere, yet there appears to be some localities in which they are more numerous than in others. Cities, manufacturing towns, and seaports, are the most fertile hot-beds of this species of fungi. As we cannot possibly run through the kingdom, and bring every appropriate example before the reader, we shall content ourselves with noticing one of each class of places alluded to. Let us drop on three at random, *Exeter*, *Leicester*, *Liverpool;*— one of our oldest cathedral towns, one of our busiest manufactories, and one of our largest ports. What see we? Liverpool

has been proverbial for its quacks ever since the days of Dr. Solomon. In quacks of his class it is, proportionately, even more prolific than its older rival, London. A list of merely the leading quacks of Liverpool will almost carry a man through the alphabet.—*Med. Circular, 4th Jan.*, 1854.

THE HORSE MAKER.

We might fill a volume with the performances of this worthy, but must perforce despatch him summarily, as others are waiting to be limned as soon as we have moved him out of the way. This notable personage locates principally in the neighbourhood of Whitechapel, though many of his kith and kin are to be met with in or near the neighbourhood of Smithfield, and in the lowest parts of Westminster. In appearance the horse maker has nothing cockneyish or London-like about him; even his dialect, though he be a cockney born and bred, is in some degree provincial both in idiom and accent. His costume is that of the respectable agricultural yeoman or small farmer, and is always in neat and tidy trim. He affects a rustic gentility and simplicity of behaviour, and disarms suspicion by his cheerful, open, loquacious, and unsophisticated manner; he makes no great parade of himself in the markets, never attending, in fact, when his presence can be dispensed with. By this means his simulated character lasts him the longer, and he is saved from the disagreeable necessity of shifting the scene of his labours. His business is to purchase horses which, from accident, vice, disease, or even old age, are rendered unfit for the service of man, and then, by means best known to himself, to metamorphose the poor beasts into quiet, plausible, serviceable-looking steeds, and to sell them, while yet under the influence of his all-potent incantations, to unwary customers. There is hardly a disorder horseflesh is heir to, the symptoms of which he cannot temporarily banish, by means of drug, knife, cautery, or some secret nostrum; while there is no animal so vicious but that he can subdue him for a time to quiet good behaviour. By dint of sheers, singeing, currycomb, and brush, under his direction, the roughest hide assumes the radient polish of the turf; but the cunning application of ginger or cayenne to the jaws, the nostrils, the ears, or elsewhere, the dullest worn out hack is stimulated into sprightliness and demonstrations of blood and breeding; and the poor honest brutes are compelled by his arts to play the hypocrite, and to assume virtues

and qualities to which they have perhaps been strangers all their lives.

The horse maker has an intimate connection with the knackers' yards, to the proprietors of which he is well known as a customer. Not a few of his bargains in horseflesh have been previously doomed to the dogs, (or rather, in London, to the cats,) and have been temporarily rescued by him from the knacker's knife. So well is this known, that respectable dealers in the metropolis, on sending a horse to be slaughtered, invariably charge their servants to see the animal slain before quitting the premises of the knacker. If this precautionary measure be omitted, it is more than possible that the owner of the beast may find himself, a few days after, mounted on the very brute which he had condemned to the knife, having bought him, re-manufactured, to supply the place of the supposed dead one. An instance actually occurred no great while ago of a farmer selling an old roadster for dog's-meat price at Barnet fair, and buying him again two days after at Smithfield, riding home well pleased with his purchase, and only discovering the fraud through the unaccountable familiarity of what he supposed to be the stranger horse with his old quarters.

A favourite speculation of these worthies, and one that generally pays a swinging per centage, is by clubbing together to purchase at a country fair a lot of wild colts fresh from the hills, and, by dint of doctoring and dressing, to prepare them for exhibition and sale at the west-end auction-marts. We have more than once witnessed the sale of these job-lots, which very rarely result to the satisfaction of the purchasers. We have seen each separate nag, just two minutes before he was led out to exhibit his paces in view of the company, subjected to certain indescribable manipulations and applications of stimulating nostrums, intended and calculated to make him counterfeit the gait and action of thorough-breeding, or something like it; and many a hack, whose actual value must have been something between seven and ten pounds, have we seen knocked down for from twenty to thirty guineas, or even more, to heedless amateurs in horse-flesh, who, before a week was over, would have been too glad to part with their bargains at a loss of fifty per cent. Still it is possible at times to get a bargain even from a horse maker. From the intimate practical knowledge these fellows acquire of all the various diseases and vicious propensities of the race *equine*, it does occasionally happen, especially when the defect is a vice and not a disease, that they will effect a thorough cure. We were once too well acquainted with a brute who possessed every

quality that a horse should have, with the exception of docility, the want of which nullified all the rest. Though valued at between fifty and sixty guineas, from his fine proportions and strength of limb, he was sold, after a score of grooms had tried their skill upon him in vain, for three sovereigns to a member of this fraternity, who, a fortnight afterwards, exhibited him in harness drawing near two tons with perfect ease and willingness, though he had not heretofore in any other hands submitted to become of any use whatever. His vanquisher declared that he had taken the devil out of him by driving him from Vauxhall to Bristol in one day, allowing him one day's rest, and then back again on the third day. Be this as it may, the horse was purchased at a high price for her Majesty's service, and we saw him frequently afterwards performing the hardest work with perfect quietness and docility.

This class of deceivers seldom succeed in their attempts to get on; they are, for the most part, men who, seduced by the love of the saddle and whip, have deserted the occupations to which they were brought up, and have sought, without capital, to participate in the profits of the regular dealer in horses. Not a few of them are the proprietors of rickety cabs or hackney coaches, which, like the beasts that draw them, have been long ago fairly worn out in the service of the public. It is not unusual to encounter an equipage which, including horse, harness, and vehicle, would be a sorry purchase at five pounds. The hungry proprietor, seated on the box, crawls about the streets in the dusk of the evening in hopes of picking up another, and still another, last fare; he is afraid to halt at the regular "stand," lest his poor staggering brute should be too stiff to move off in case of a sudden call. The scoundrel has platted an iron wire into the thin end of his whip-lash, well knowing that nothing short of actual torture will goad the wretched jade he drives into anything faster than a walking pace. One is often tempted, at such a spectacle, to pray for a collision with some racing van or omnibus, which shall shake the remaining life out of the poor brute, and thus release him from the tyranny of his master, punishing the biped at the same moment for his dastardly inhumanity.—*Curiosities of London Life.*

THE PROCESS OF CALORIFICATION IN ANIMAL BODIES.

AT THE MEDICAL SOCIETY OF LONDON.

Mr. Richardson then read a paper on the above subject.

He entered at great length and with considerable ability into the various theories which had been held to account for the causes of animal temperature, but did not bring forward any new facts.

Dr. Lankester was fully satisfied at the correctness of the chemical theory, and would be indisposed to admit the influence of the nervous force over purely physical actions. Sir B. Brodie's experiments had no value, except as showing that the nervous power was necessary to the integrity of the system. Dr. Playfair had given much support to the chemical theory in his affirmation, that a proportion exists between the size of the lung, the amount of animal heat, and the degree of muscular power, as shown in the case of birds, in which, with unusual muscular power, there is the most extended respiratory apparatus, and a temperature as high as 110° to 116°. He then intimated that hydrogen plays no unimportant part in the production of animal heat, since in fats found in all kinds of fish and flesh there is an excess of 9 equivalents of hydrogen over the 1 equivalent of that gas, which unites with the 1 equivalent of oxygen to form water; and it is well known that fats do support combustion in the lungs. In reference to the action of the skin when the body is exposed to great heat, he had no doubt whatever that free perspiration is intended to eliminate the rapidly-formed effete matter; and that when from any cause, as that of excess of vapour in the air, this function cannot freely proceed, some other organ must take on the eliminating process, or disease will ensue. The influence of a cold is of the latter character.

Dr. Winn believed that the production of heat mainly depended upon the chemical action referred to; but affirmed that certain conditions occur, for which that theory does not account. For instance, in pneumonia, the function cannot be so perfectly maintained as in a state of health, and yet the temperature is very elevated. He had shown, many years ago, that this increased temperature is probably owing to elasticity of the arteries, and had proved by experiment, that if an ox's artery be repeatedly elongated, the thermometer will rise 1° or 2°.

Dr. Crisp informed Dr. Winn, that the elasticity of arteries in reptiles is equal to that of hot-blooded animals. The

amount of muscular power is no precise measure of the animal heat, or the flea and the dragon-fly, travelling at the rate of 200 miles per hour, would, in proportion to its size, have a more elevated temperature. Dr. Davey had affirmed, that the sympathetic nerve is the source of this heat; but no unwonted development of that system had been detected in birds. He believed in the chemical theory, and affirmed, in opposition to the late Mr. Barlow, that the fat from the combustion of which heat is derived is a natural production, and is constantly met with in wild animals.

Mr. H. Lee agreed with Dr. Winn, that there are certain conditions of the system as to heat which cannot be accounted for by the chemical theory. The limbs of a dying person become cold, while the trunk retains its natural warmth; and he had observed, that the body of a patient suffering from injury to the head, became and continued colder than the surrounding media.

Dr. E. Smith related the experience of the inhabitants of warm climates in reference to the value of the action of the skin. He had observed, when travelling near the Gulf of Mexico, that, while riding on the high rolling prairies, with the temperature of the sun's rays at 120° or 130°, no inconvenience was experienced beyond that of direct burning, for the lungs acted freely, and the clothing was constantly dripping with perspiration. This was owing to the dryness of the atmosphere; but, whenever he crossed the wooded bottom of a river, and was entangled for a time in the trees and mud, the respiration became laborious, and the perspiration, instead of flying off rapidly, rolled down in streams. This was attributable to the lessened evaporation resulting from increase of moisture in the air, and the absence of the breeze. When the perspiration was free, there was a less rather than a greater tendency to the action of the kidneys. Those persons who live in low, marshy places in hot countries, do not readily eliminate the effete matter by the skin and kidneys, and therefore become liable to fever. In the Russian winters the inhabitants are said to have a custom of entering into ovens heated to 240° before setting out for the chase, and, as the air is dry, and the perspiration free, the effect is exhilarating.

Dr. Gibb gave similar experience in reference to cold, and affirmed, that while he could enjoy the intense cold of Canada, because it was dry, he had suffered much from the comparatively trifling but damp cold of this country. He also called attention to the fact, that emigrants from this country bear the first year's cold of Canada with impunity,

but in the next season suffer to a greater extent than those who have been acclimated.

Mr. Rogers Harrison referred to the experience of men and horses in racing, to show that the animal heat does not absolutely correspond to the degree of muscular exertion. A man or an animal, to run with the utmost speed, must have been previously entirely deprived of fat, that is, of the substance by which, on the chemical theory, the animal heat is produced.

Dr. Chowne agreed with some of the speakers in the belief that conditions do exist which cannot be accounted for on the chemical theory. Thus, a cholera patient will become colder than the surrounding medium; and it would be easier to warm a marble block, than to raise the temperature of his body. He believed, that the vital principle must be presumed to have some influence in the production of heat.

Dr. Cogswell quoted John Hunter's expression in reference to the stomach, and reminded the Fellows, that the human body is not a mere furnace. Moreover, vitality should not be confounded with nervous force, as he had shown on a previous occasion in reference to muscular fibre. It was worthy of remark, that Napoleon's Italian soldiers suffered less than others in the Russian campaign.

Mr. Richardson, in reply, strongly recommended attention to Samuel Metcalfe's almost unknown work on caloric. He also stated, that if the chemical theory does not account for every fact, it is because we cannot collect all the products of combustion. The function of combustion is even more perfect in pneumonia than in a state of health; and therefore the temperature of the room should not exceed 55° or 60°. The coldness observed in the dying, and in persons suffering from injury, is probably attributable to the failure of the circulation. In racing animals, the muscular waste is in proportion to the amount of respiration and circulation; for if such animal runs violently, there is no increase in the fibrin of the blood; but if he remains at rest, and yet the breathing be accelerated, that substance does increase in quantity. The coldness in cholera cases is because the internal fire is extinguished. The body will not absorb warmth; we must re-kindle the dying embers.—*Medical Times*, Jan. 14, 1854.

TREATMENT OF INFLAMMATION BY TONICS.

(*Expounded by* F. C. Skey, F.R.S., *in his work "On the Prevalent Treatment of Disease.*)

"If we take a general and impartial survey of the multiform diseases that, in the exercise of our duties as members of our high profession, we profess to control by the agency of medical science, there are probably few that are not more or less the product of derangement in the condition of either the vascular or nervous system, or of both, founded on a basis of *weakness.* If the supply derived from the heart and from the nervous centres be disturbed, or be even deficient, if the harmony between these two functions be deranged, disease is the result.

"I presume it to be an infalible law of nature, that health and strength are *harmonious, co-existent,* and *naturally dependent;* that health and weakness, strength and disease, are incompatibilities; that as health and disease are also incompatible, so the most efficient principles of treatment that medical science could adopt is one which would most effectually build up, nourish, and invigorate the vital powers as an antidote to the disease; to oppose and to thwart the antagonism of debility by the administration of such means as give tone and vigour, and health and strength, to the system. This ought to be the broad basis of medical treatment throughout the whole range of disease, the true philosophy of medical science. We talk of treating disease, when, in truth, we treat but its symptoms. We contend against effects, leaving causes untouched.

* * * * * * * * *

"Take a familiar illustration. Select two healthy men of the same age and constitution. Take twenty ounces of blood from one of them. Subject them both to the atmosphere of a room impregnated with fever or other contagious disease. Which of these men is the more susceptible of infection? And why? Because the loss of blood has really opened the portals to disease. His circulation is accelerated by loss of blood—but most of all, the tone of his nervous system is shaken. Parallel and corroboratory of this acknowledged truth is an old but solid maxim in medicine, not to approach a contaminated atmosphere with an empty stomach. Swallow a stimulant, and you will avert fever or other disease.

"And will not the same reasoning apply to almost every form of deviation from health? If I select fever, may I not

also quote *inflammation?* What is the best preventive to an attack of inflammation? Tonic health, full blood-vessels, health and vigour of the frame. The profession recognises the distinction between the forms of inflammation we call acute and cachectic or asthenic—as the result of weakness—but is not every form of inflammation the result of weakness? *Strength is health,* and every deviation from strength, points to deviation from health. Ask the physician-accoucheur in what class of case he has most reason to anticipate the peculiar form of inflammation of the uterus and lower limbs, called phlegmasia dolens, or puerperal peritonitis, accompanied as they are with fever? If he be an observant man, he will tell you, *in those cases which follow uterine hæmorrhage.*

CHLOROFORMING THE TIGER.

The 'Eastern Counties Gazette' states, that for some time past the magnificent tiger in the Hull Zoological gardens, has experienced great torture by the growth of its claws into the fleshy part of its foot. On Saturday last it was determined to make an attempt to cut them, by stupifying the animal with chloroform. Mr. Taylor, Veterinary Surgeon, was the operator, and several medical gentlemen were present to advise and assist in the operation. Sponges well saturated with chloroform were fastened to the end of long staffs, and held to the tiger's nose. He broke several of these, and seemed disposed in this unceremonious way, to disappoint all expectations of success. For some time no opportunity was afforded of performing the operation, but when 2lb. 8oz. of chloroform had been used, the animal was so far stupefied as to induce Mr. Taylor to commence. Still it was a task very far from pleasant to undertake the operation. Ropes were got round the animal's neck, and his head was drawn close to the bars of the den, and the animal kept close down, so as to prevent the struggles which he was expected to make. By Mr. Taylor's exertions, also, smaller ropes were slipped over each of the tiger's paws, which not only rendered him helpless, but were of use in pulling each paw as wanted under the bars to have the claws drawn, which was speedily done by the aid of a pair of forceps. Since the operation he has continued hearty.

THE VETERINARIAN, MARCH 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

The letter of Mr. Page, an old veterinary officer in the service of the Hon. East India Company, at p. 128 of our present Number, is in reply to one on the subject of the "Treatment of Bursautee," by a Captain Apperley, of the same service, (a gentleman, a son of the late Mr. Apperley better known to us under the famed signature of 'Nimrod.') An alleged remedy for bursautee cannot fail to have taken the Indian veterinary community by surprise; at the same time that it was one which commanded more attention than it otherwise would, from the circumstance of its having originated with the son of the celebrated "Nimrod." And yet the author of it, be he who he may, had evidently placed himself in not only a conspicuous, but a hazardous position, in setting himself up to cure a disease, which, like glanders in our own country, had become not only the opprobrium of Indian veterinary surgeons, but had baffled the art for ages even of the natives themselves. So much, however, had this letter at its outset been thought of by the Indian military authorities, that it was not suffered to become public through any ordinary channel, but actually issued officially, in the form of a "Circular" from the adjutant-general's office, signed by the adjutant-general of the army, Lieut.-Col. Tucker, himself, with "directions from his excellency, the commander-in-chief, to have a copy of it communicated to all officers commanding mounted corps, and troops of horse artillery, for trial;" and "for the more general diffusion of so *valuable a recipe*." This letter of command bears date, July 7, 1851; while Mr. Page's reply, coming close at the heels of it, is dated August 25, 1851.

Captain Apperley, no doubt, as the son of "Nimrod," and on account of his known knowledge in horses, stood as a favorite with those in power, and perhaps this it was that enabled him to carry at once his letter through the adjutant-

general's office; though, admitting all this, it was clearly unwise in either the authorities or himself,—in one to practice, in the other to order any supposed or alleged cure for a disease without consulting veterinary officers. And here, very forcibly, is shown the need there is of a *principal* veterinary surgeon, in whom, at once, (at the Indian Horse Guards) reference could have been made on the spot.

We do not deny the *possibility* of a captain, or any other unprofessional person having a *liaison* for veterinary matters, hitting by chance on a remedy or cure for even such a disease as *bursautee;* though the probability of his doing so seems hardly more to be expected than the coming of a miracle. Let Captain Apperley only for a moment reflect on the position in which he has placed himself. The science of medicine is a very comprehensive one. It includes a knowledge of anatomy, of physiology, of pathology, of chemistry, of pharmacy, &c.,—all of them important branches of study, and which a student, by diligence and perseverance alone, can acquire. And yet here is Captain Apperley, who can clear all these studies at one leap, and make the terribly bold assertion that he is able to remedy that which has puzzled the whole Indian nation beside. Surely some benignant genius must have inspired him; or else, whence could he have derived such *vis medicatricis*. The answer is, "Why by dint of trial and practice, to be sure!"—"Aye, and more, My remedy cures not bursautee only, but quittor as well;" —a disease bearing no relationship to it whatever; and to make any comparison between them is like comparing "a pig with a fortnight."

"Nay but," says the Captain, "it may be all very well to talk to me about medicine; let us come to the *fact*. Will the means I advocate, cure or remove bursautee; or, will they not?" *Facts are stubborn things;* and by them let us be guided. Even so. We will not hazard an answer to these questions ourselves; but we will hand them over to two of the oldest and most experienced of the veterinary surgeons of the Indian army, men whose judgment and repute have never been suspected, and by them we will abide, and be content that the question shall be set at rest.

Mr. Western, veterinary surgeon to the Madras horse artillery, whose servitude in India amounts to twenty-seven years, and whose standing as a veterinarian is as eminent as his years of service are many, says, in his letter on the subject, in the *Veterinarian* for August 1853, "had there been a senior veterinary surgeon on the establishment, he would at once have pointed out its (the cure's) *unscientific nature and absurdity;* as could likewise, I have no doubt, any veterinary surgeon of half-a-dozen years' standing in the service." A word on Captain Apperley's *Nota bene*,—"For this formidable disease, (quittor,) which not unfrequently baffles the best of us, we are modestly told, and the head of the army in India believes, that *the best cure in the world is salivation, and black wash;* the latter being a drachm of calomel to a pint of lime water."

Mr. Page, veterinary surgeon to the 1st light cavalry in Bengal, also a man of many years' servitude, and ripe experience, writes—as will be seen by his letter, published by us this month—likewise in terms of condemnation of this vaunted cure, in words we have no occasion to repeat here, seeing they already stand before our readers.

OBITUARY.

The subjoined has been sent us for insertion:

Died, January 23, 1854, Mr. Robert Henderson, veterinary surgeon, Windsor, Berks, aged 52. The deceased was brother to the late Mr. W. Henderson, V.S., of Edinburgh.

MISCELLANEA.

ANOTHER "INSTITUTE."

We perceive by the daily papers, that the Royal College of Veterinary Surgeons is not the only body that has taken to itself the name of *Institute*. Under the denomination of "The Dargan Institute," a deputation of the Licensed Grocers and Vintners' Society, have exerted themselves to induce a full and grateful sense of Mr. Dargan's eminent services, among the members of their trade, &c.

SANITARY AND TEMPERANCE MOVEMENT.

(*From the Edinb. Med. Journ.*)

Everybody knows that sanitary improvement and temperance have attracted much attention of late, and all must admit that they have taken a good hold on the public mind. We were never more impressed with the truth of this than

at the recent annual dinner of the Royal College of Physicians, where instead of such songs as 'The Glasses Sparkle on the Board,' or 'Willie brewed a peck o' maut,' we heard the following ditty, which was received with much applause. The vocalist had adopted the air and measure of Moore's well known Irish melody, 'Love's Young Dream,' but managed to infuse into the music such a degree of lugubriousness, that at each repetition of the *refrain*, we experienced a sort of hydropathic chill, which, however, it is but justice to the song to say, was followed by a healthy reaction. As we are decidedly interested in the progress of Sanitary and Temperance Reform, we give the words, which we were enabled to note down with tolerable correctness:

AIR.—'*Love's Young Dream.*'

Oh! the days are gone when claret bright
Inspired my strain,
When I sang on every festive night
About champagne.
Prime "Thirty-four"
In floods may pour,
And glasses gaily clatter,
But there's nothing half so safe to drink
As plain cold water.

Though the bard may make a greater noise
Over his wine,
When with other Bacchanalian boys
He chances to dine;
Yet if he wake
With a headache,
And wonder what's the matter,
He learns there's nought so safe to drink
As plain cold water.

There's Dr. Hassall,* he proclaims
That water's full
Of curious brutes, with curious names,
In every pool.
Now you will see
That this must be
A most important matter,
For it's clear there's meat, as well as drink,
In plain cold water.

Professor Clark of Aberdeen†
Says chalk is there,
And Monsieur Chatin, iodine‡
Finds every where.

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* 'On the Water supplied to the Metropolis,' by Dr. Hill Hassall.

† Patent process for removing the carbonate of lime from water for domestic use, by Thomas Clark, M.D., Professor of Chemistry, Marischal College, Aberdeen.

‡ 'Journal de Pharmacie,' tomes xvii, xviii.

If this be true,
It's clear to you,
It's just so much the better,
For there's meat and drink and physic too,
In plain cold water.

So if your health you would keep good,
With wine have done,
And like that wise man,* with your food,
Drink water alone.
About he drives,
And well he thrives,
And every day grows fatter,
Which shows that folks can live quite well
On plain cold water.

QUARTERLY COUNCIL MEETING,

HELD AT THE

INSTITUTE OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

January 25th, 1854.

Present—The President; Messrs. Braby, Burley, Dickens, Ernes, Henderson (Treasurer,) Lepper, Pritchard, Robinson, Silvester, Stockley, Varnell and Wilkinson; Professors Simonds and Morton; and the Secretary.

W. J. Goodwin, Esq., the President, in the Chair.

The minutes of the previous meeting were read and confirmed.

The Secretary read letters from Prof. Morton, accompanying a donation of his works to the library; Mr. W. Percivall, objecting to the term 'Institute,' as applied to the residence of the Royal College of Veterinary Surgeons; Mr. F. C. Cherry, taking exception to certain particulars in the accounts of the College; and a petition from John Hilman, journeyman farrier.

The petition was, on the motion of *Prof. Simonds*, seconded by *Mr. Wilkinson*, ordered to stand over for consideration at the next Council Meeting.

In reference to Mr. Percivall's letter,

The Chairman said it was too late to make any alteration in the title 'Institute of the Royal College of Veterinary Surgeons,' a resolution in Council having been passed in February, 1853, respecting it.

* Indicating a distinguished Teetotaller.

The Secretary was directed to write to Mr. Percivall to that effect.

And, in reference to Mr. Cherry's letter, it was ordered to be referred to the Finance Committee.

Prof. Morton again brought forward a motion relative to the Fees of the Board of Examiners, and proposed "that an addition of one guinea be made to the fee of each medical examiner, making the sum three guineas to each. It was highly desirable to secure the services of men of eminence,—such men as now constituted the medical portion of the Board—and it was only just that their labours should be suitably acknowledged, and he thought five guineas, as he had first proposed, a more adequate sum. He should deeply regret to see the two professions disunited; they had hitherto worked harmoniously together, and tended to increase the boundaries of truth, and he should be sorry to have that harmony disturbed by any unwillingness on the part of the Council to give a more suitable remuneration to the medical examiners. It had been objected that the funds of the College were not in a condition to justify the increased expenditure, while at the same time the House Committee had resolved on the appointment of a messenger (whose services were certainly not indispensable) at an expense of £40 a year.

Prof. Simonds seconded the motion.

Mr. Dickens thought that to give three guineas to the medical examiners, and only two guineas to the veterinary portion of the Board, would be invidious to the latter.

Mr. Wilkinson was of the same opinion, and said he would rather give up his fee as an examiner than that such a distinction should be made.

The Secretary hoped it would be understood that the distinction was not intended as any slight to the veterinary examiners, and that the limitation was only proposed in consequence of the state of the funds.

Mr. Ernes and *Mr. Burley* also thought the distinction invidious.

Mr. Robinson thought it was only a deserved compliment to the eminent medical gentlemen on the Board to give them higher fees than were paid to the other examiners.

The Chairman considered that the distinction ought not to be objected to.

The motion was then put and carried.

Prof. Morton then proposed that the travelling expenses of the examiners, who came fifty miles from London, should be defrayed.

Prof. Simonds seconded the motion.

Mr. Robinson said that Mr. Mayer and himself were the only examiners who would be affected by such a resolution. For himself he would rather give his services gratuitously than have his travelling expenses paid, and he felt sure that Mr. Mayer participated in that feeling. He hoped, therefore, that the motion would be withdrawn.

The motion was withdrawn accordingly.

Prof. Simonds proposed, "that the present system of nominal examination, hitherto adopted by the Board of Examiners, for those who were in practice before the obtainment of the charter, be discontinued after the present session." The motion, he said, had reference to certain persons who had attended the lectures of the College, and after carrying on practice for some years in the country without a proper qualification, presented themselves for examination at the Board. Such persons, having obtained certificates from the teachers as to their previous attendance, had hitherto been allowed to pass a nominal examination; and the result, he feared, had been that persons not perfectly qualified, had been admitted into the profession. No perfect record having been kept of the pupils' attendance, and Prof. Sewell being dead, the present teachers were at times unable to certify from their own knowledge, of the applicant's attendance, and had to depend upon the statements of the parties themselves, which was not desirable. Nominal examinations might be admissible, and even desirable, in certain cases, at an early period of an institution's existence; but if such a system were continued it would lead to endless abuses, and he was therefore desirous of limiting to the present session the privilege which had been extended to former pupils of the College who had entered into practice without obtaining their diplomas.

Mr. Ernes seconded the motion, and expressed his surprise that such a system should have been so long permitted.

Mr. Stockley, *Mr. Sylvester*, and *Mr. Pritchard* thought the system should cease at once.

Mr. Dickens proposed, as an amendment, "That from this date no person shall be admitted a member of the Royal College of Veterinary Surgeons by a nominal examination."

Mr. Varnell seconded the amendment, which, on being put to the meeting, was carried; the original motion, therefore, was lost.

The Secretary read the report of the House Committee.

"The repairs required in the residence taken for the College, being now completed, it is prepared for their reception; £40 has been paid for the lease and fixtures, and £60 to the builder on account; the balance owing has not yet been

ascertained, on account of the extra work required to complete the drainage, which was found to be in a very imperfect state; but, as soon as it is received, it will be laid before the Council, and their sanction asked for the payment of the same.

"The furnishing of the house, as far as you will this evening perceive it has proceeded, has been accomplished within the sum allowed, namely £150.

"A messenger has been engaged.

"The directions of the House Committee have been carried out, both by the surveyor and builder, very satisfactorily; some of the minor details of the arrangements remain to be completed when the Council may think fit to order the same.

E. N. Gabriel,
(Secretary to the Committee.")

"January 25, 1854."

Prof. Simonds objected to the appointment of a messenger, at an expense of £40, thinking that the services required by the Council might be obtained for a much less sum.

The Secretary said, the Council had received and adopted two reports from the House Committee, in which the appointment of a messenger, at a salary of 16*s.* per week, was recommended, and without which the residence of the College could not be kept in that order, nor could the members receive that attendance they had a right to expect. As, however, such an appointment added considerably to his (the Secretary's) convenience, rather than the Council should suppose that he wished to take the least advantage of any opportunity of the kind that might offer, he proposed to give up £10 a year (in addition to the £30 relinquished by him towards the rent) in part payment of the messenger's salary.

Prof. Simonds was perfectly satisfied with such an arrangement.

Mr. Stockley thought that, for so trifling a sum as £10 a year, the Secretary's offer should not be accepted, and that the Council should pay the full amount of the salary.

Mr. Pritchard thought so too, and that if the place was not worth a servant of 16*s.* a week, it was of no use to the College.

Mr. Ernes said, he thought the Secretary's offer should be accepted, as it added to his comfort, and saved expense to the College.

Mr. Robinson considered the offer of the Secretary a very liberal one, and trusted it would unanimously be accepted.

The Secretary's offer was received and registered.

On the motion of *Mr. Ernes*, seconded by *Prof. Simonds*, the House Committee's Report was unanimously received.

The Secretary read the Treasurer's Report, showing a balance in hand of 373*l.* 19*s.*, and stated, that supposing the

additional expense required for the repairs of the house, furniture, &c. to amount to £150, a balance of £220 or £230 would remain in the Treasurer's hands.

Mr. Sylvester moved that the Committee be requested to complete the furnishing, at an expense not exceeding £25.

Mr. Stockley seconded the motion, which passed unanimously.

On the motion of *Mr. Robinson*, seconded by *Mr. Lepper*, the Treasurer's report was received unanimously.

The Registrar's Report was then read.

It stated that, during the Quarter, six deaths had been reported, eleven changes of residence had taken place, and six gentlemen had been admitted Members of the body corporate; the deaths were—

J. F. Nash, 1795, Bishops Stortford.
J. Dawtrey, 1837, Petworth.
J. Dunsford, 1846, London.
E. Crundell, 1847, Madras.
J. Lane, 1848, Australia.
J. D. Cucksey, 1852, London.

The gentlemen admitted were T. T. Hudson, Blyth, Nottingham; J. C. Truckle, Salisbury; R. Boulton, Ham Green, Worcester; W. Hutchings, Leigh, Lancashire; G. J. Vincent, Ash, Suffolk; M. J. Harpley, London.

On the motion of *Prof. Simonds*, seconded by *Mr. Gabriel*, it was resolved "that a new register be issued, to be completed up to the end of the present session."

The Secretary announced the following donations, in addition to those presented by Prof. Morton:—From the President, several handsome bronzes; some preparations for the Museum, and books for the Library; from the Treasurer, some valuable specimens for the Museum, and from himself 120 or 130 volumes for the Library, and 30 or 40 specimens for the Museum.

Mr. Sylvester moved a vote of thanks to the donors.

Mr. Lepper seconded the motion, which passed unanimously.

The President, Mr. Henderson, Prof. Morton, and the Secretary acknowledged the vote of thanks accorded to them.

The Treasurer was authorised to draw cheques for completing the furnishing, and for the current expenses of the Quarter.

Messrs. Braby, Varnell, and the Secretary having been named as the Committee of Supervision, the proceedings terminated.

Edw. Braby,
G. W. Varnell,
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SOME THOUGHTS CONCERNING THE ACCEPTED PHYSIOLOGY OF THE HEART.

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Nothing new, one would at first glance conclude, could be said regarding so hackneyed a subject. After the number of eminent men who have minutely considered the circulation and every portion of its apparatus, he, the generality of readers will be inclined to say, must be a bold man who presumes to utter another word about the matter. However, leaving all ideas concerning presumption to those who delight in them, anatomy has laid bare certain facts, concerning which reflection has induced me to come to certain conclusions.

In the first place, it is very general to say, arteries have three coats, one of which is muscular; also that veins have three coats, neither of which is muscular. Regarding the muscular coat of arteries, it has long been given up that they have any covering like red muscular fibre. Yet those who are anxious to establish their muscular character, and have not been pleased with an investment of simple elastic tissue, now assert they have a coating of yellow substance mingled with much organic fibre.

I know not whether this assertion be correct or not. I have in vain endeavoured to discover anything approaching to organic fibre in the tubes of arteries. However, the blindness of one man makes no way when urged against the positive perceptions of another. That which I here wish to inform the public is, that veins, that is, the two cavas, have a good thick covering of red muscular fibre. It appears to be continuous with the substance of the auricles. I have not been able to investigate the smaller vessels by means of the microscope. My late sickness must plead my excuse for

such seeming negligence; nor is this matter important to the subject of my present paper,—which concerns the heart, of course including the tubes opening into and leading from it.

We all know how the circulation is described. The blood enters one cavity, and by the contraction of that one is forced into another cavity; the tricuspid and mitral valves serving to keep each cavity separate and distinct.

Now, when the auricles first dilate, the ventricles are contracted or pressed close together. The auricle being the uppermost, the contracted ventricle must form the floor of the dilated cavity. Now, when the floor gives way, no force is required to compel a fluid to fall down the opening below. This is self-evident. But what becomes of the impulse derived from the contraction of the auricle in those cases in which the walls of the last-mentioned cavity are ossified? How can we, according to our present theory, account for the circulation being carried on in those instances, when the pericardium covering the ventricles has been changed to bone. Mr. Gowing, of Camden Town, possesses a very fine specimen of this last-mentioned kind, for the formation of which the animal must have lived long enough to allow the deposition of bone, and I dare say of a vast quantity of resistant cartilage being deposited besides.

Post-mortems, however, convince us that the circulation is properly conducted, even during violent exercise, for years, with one or either of the cavities of the heart converted into bone. How is this to be reconciled? How are we to explain the ventricle which contains more than the auricle being filled with the contents of the lesser cavity?

This, according to our present theory, cannot be explained; but supposing the veins contract with the auricle, (and they, both the cavas and the pulmonaries, have a perceptible coating of red contractile fibre,) then the whole is easily explained. The viens contracting with the auricles empty their contents into the ventricle, and thus make up the deficiency.

The auricles contract with the veins, *i. e.* they shut themselves up into the smallest possible space. The auricles, thus compressed, then become the ceilings or topmost parts of the ventricles. What then becomes of the tricuspid and mitral valves which were to keep the cavities distinct, seeing that when the ventricles exist as cavities, the auricles are obliterated? The heart may have four cavities. That is perfectly true. But it has only two cavities open at one time, since as one expands the other closes.

What, then, is the use of the auriculo-ventricular valves? It is evident they cannot perform the service generally attributed to them. Let us, however, inspect them. The edges of the valves are peculiar for having numerous tendinous cords hanging from them: these cords are attached to fleshy projections, which constitute part of the contractile substance of the walls of the ventricles. When the walls become less, the fleshy pillars must diminish with them, and thus pull down the valves. The pulmonary artery, or the aorta, originate from the top of the ventricle. To send fluid into either of the vessels just named, one sudden push from behind were worth all the force laterally expended. With the contraction of the ventricles the fleshy pillars also lessen, pull down the valves, give the desired impetus from behind, and thus immediately aid in sending the blood into the arteries.

Mr. T. W. King, contributor of a paper to 'Guy's Hospital Reports,' No. 4, April, 1837, has, in the 'Encyclopædia of Anatomy and Physiology,' a note awarded to his discovery of a safety valve to prevent the heart bursting during its contractions. Wonders will never cease. Did it never strike the learned editors of the above book that the semilunar valves, when there was fluid on both sides of them, become merely floating membranes? They were then in a condition not like to a lock, with water highest on one side, which is immoveable; but resembling the aquatic key, when the water is on a level upon both sides; the lock then loses all its firmness, and becomes simply a floating piece of wood, to which a child may give an impetus in any direction. The use of the semi-lunar valves, therefore, is to keep the blood left within the aorta, or pulmonary artery, from mingling with the fluid poured into the ventricles; and thus to increase the quantity propelled into the vessels by the contraction of the heart. The way in which I, according to my present conviction, account for the supply of blood being continuous throughout the body, when either cavity is ossified, is this:— Say the auricles are thus affected; of course these cavities are found changed to bone in a dilated state. With the alteration in the condition of the auricles or ventricles, the muscular coating of the veins becomes materially thickened. The veins, therefore, are made more energetic in their action. This circumstance I have repeatedly verified, as will no doubt be done in future by subsequent observers.

Well, the veins are rendered more impulsive; the ventricle dilates; the veins send into the heart an amount of blood sufficient to fill the dilated auricle and the venticle also. It does not matter essentially whether the top of a cavity be

formed of solid or fluid, so that substance in some shape be there. The walls of venticles and the fleshy pillars contract and propel a sufficiency of blood into the arteries to support life, almost the same amount as if the auricle were contracted.

Then, in instances where the ventricle is ossified, such ossification usually involves the pericardium rather than the walls of the heart. It may cripple the substance of the ventricle, but it cannot affect the fleshy pillars. Those and the auricle are left entire, and in a normal condition, although the movements of the ventricle generally are interfered with. Well, the blood flows in; the extra energy of the veins upon the dilatation of the auricles filling both cavities. The auricle contracts. It does not matter whether the valve be at the mouth of a vessel or a mile distant; its action is the same. No blood being able to pass into the contracting cavas, a portion is necessarily sent up the artery by this movement. The remainder is supplied by the contraction of the fleshy pillars pulling down the auriculo-ventricular valves.

I confess that there would then be an irregularity of the pulse. But the object I aim at is to show how the supply of blood could by any means be accomplished; which, by the received theory of the circulation, would be an impossibility.

Among the proofs which I regard as confirmatory of the views herein advanced, is the venous pulse, or the pulsation to be observed in the jugulars of certain horses. This pulse I look upon as caused by the contraction of the cavas, when all the blood contained within those veins of course cannot be urged in one direction. A portion of it is by the impetus sent up the vein, and this portion dilating the vein and making its presence known by, for a time, opposing the current, gives rise to the venous pulse. Of course the impetus, coming from an opposite direction, is more felt, because the current has hardly ceased running with greater speed towards the heart. Any check in its progress acts like a sudden stop put to a line of carriages when moving in single file. The pull-up is felt even by the most distant of the line; and, as we know, waves of motion are more easily conveyed through fluids than through solids, it can be nothing strange if a suddenly contrary impulse springing from a vessel in direct communication with the heart, is perceptible in such a vessel as the jugular, even granting the muscular coating of veins not to be continuous.

ON THE USE AND ABUSE OF BELLADONNA.

By the same.

I wish to say a few words about the real utility of the above agent. Many of our profession have a confirmed prejudice against it: this conviction, in my opinion, springs from not clearly understanding its action. It is usually given in pneumonia, or in diseases supposed to be of such a character, for I may here state my conviction that true pneumonia is, in the present age, but seldom witnessed; the majority, the very great majority, of the imaginary cases of pneumonia terminate fatally. Will you pardon me if I attempt an explanation of this fact?

Pneumonia was not formerly one half as fatal as it is at the immediate moment; this is easily ascertained, but how is the circumstance to be accounted for? Has the veterinary profession stood still? Has the impulse of the present century not reached veterinarians? I leave those who have eyes to watch, and have kept them open, to answer the question. However, supposing our progenitors to have been an extraordinary clever race, nevertheless we know their plan of treatment, there is quite sufficient left to us to instruct us did we please to follow it: still means which were remedial in our grandfathers' hands, fail in ours; the horse is still the same, and men are men; then why is it that like means administered to meet a similar disease have an opposite effect?

Suppose, and only suppose, that the disease insisted upon in the lecture-room has all but died out, as many diseases that once ravaged this land are known to have done; conjecture that the affection which once was an every-day occurrence is now a very rare event; imagine also that another disease is apt to take on all its more leading or more prominent symptoms; let us ask the initiated whether there is at the present time any known disorder which is apt to take on a peculiarly simulative character? Am I wrong when I answer the above inquiry in the affirmative? Can I be accused of error when I point to influenza as an ailment very much disposed to assume the likeness of any other of the "ills that flesh is heir to?"

Influenza, I take it for granted, is, in a number of cases, mistaken for pneumonia. Now, a sedative would be fatal in so debilitating a disorder, and it is in this way I chiefly account for pneumonia being so much more fatal at the present time than formerly. Pneumonia now has a peculiar

tendency to terminate in hydrothorax, which is very strange if the disease be recognised correctly in its early stages. But it is no more than is to be expected if a debilitating affection be mistaken for an acute disorder, seeing that the former, under active treatment, may end in dropsy of all or any part.

Now belladonna chances to be a medicine newly brought forward. Unfortunately it has come into general use without the practitioner having been afforded any test whereby he might ascertain when the drug had affected the system. All the symptoms induced by belladonna are those which the most careful veterinarian might well mistake for the results of the disorder. The signs of the influence of belladonna principally being a disinclination for food or water, weakness, feeble pulse, and gradual prostration; who is there who might not confound these symptoms with those natural to the progress of pneumonia.

Belladonna I do not esteem to be like digitalis, apt to accumulate in the system: its working is more speedily felt, and of course the potency of the drug is destroyed by the effects to which it gives birth. It is, in my opinion, a most valuable agent, but one entirely unsuited to be employed as a general sedative. It has an immediate action upon the throat and lungs, but its action is shown by a loathing of food or drink of any kind: tempt the horse as you please, if under the action of belladonna, he cannot partake of any luxury; his pharynx is constringed, and not a morsel or a drop would pass into the œsophagus, had he even the inclination to make the effort. Moreover, the secretion of saliva has stopped; his mouth is hot and dry; the tongue, unlike the soft organ of the animal, resembles a feeble rasp. In vain would he try to chew, in vain would he essay to swallow the morsel which had not been insalivated.

All this may be exhibited, and nevertheless the belladonna may be forced down the throat: for who, not suspecting the cause, could detect the agency of medicine. Yet belladonna I esteem the very best drug for the cure of those diseases in which its abuse may be prejudicial. It is, however, rather fit for occasional adoption than for general use; it is best given in repeated small doses, so that its effect may be soon observed. The entire loss of everything like appetite is a sign to be depended upon, and I have not found this symptom, when watched for, ever mislead me.

I would advocate half a drachm of belladonna to be given every second hour, until its working is denoted; then the agent to be discontinued till the appetite is restored, when, if

necessary, it may be employed again. Observe, in the above method, the dose must be administered, and the animal watched night and day. The speed and certainty of its action amply repays all extra care.

I have found it specific in sore throat, and highly ameliorative in all affections of the chest. It is not generally known, but a scruple of belladonna dissolved in two ounces of water, and sparingly but frequently employed as a gargle, will remove lingering sore throat in the human being. For severe cases of bronchitis, in man, I have taken a bottle containing a mixture of the above strength, and have advised the sufferer to take a teaspoonful every hour, till he could neither eat or drink, else until he feels a dryness and costriction of the throat, and I have never met with a case in which the medicine has failed.

We are all aware of the usual severe means pursued in the removal of inflamed lungs in the dog; the severity of the measures is not abated even in distemper; and more of these animals die of the effects of the ordinary physic, than perish from the consequences of the thoracic disease. I have long since abolished the fearful remedies I have just alluded to, I now depend upon belladonna, which I recommend in the form of a pill—a quarter of a grain every hour, or a grain three times a day. Myself, I prefer the first-named quantities repeatedly administered, but either will answer the purpose.

METHODS OF SHOEING IRREGULAR AND REGULAR CAVALRY HORSES IN INDIA.

By J. T. Hodgson, V.S.

"Their horses' hoofs shall be counted like flint."—*Isaiah*, ch. v, 28.

The above description is given by the holy prophet of the horses' hoofs that were to be used in the destruction of Jerusalem, signifying hardness, which was then, as it now is in Asia, considered perfection in horses' hoofs. There, the temperature at times is as low as 32° Fahrenheit, at other times it is 140°, the mean temperature being 70°.

The heat of the climate and the arid nature of the soil is the cause of the hardness. During the periodical rains, or when horses are reared in the vicinity of rivers, there are occasional exceptions to this hardness of hoof, but from the

great heat it is not then of long continuance. The parts of Asia so famous for horse breeding is not inundated; and it is partly owing to this hardness of the hoof that foals are able to follow their dams on a journey, and horses to travel without shoes, or with thin shoes on the fore feet only. The hard horn resists wear, but on hard ground, or when stony, it is liable to be broken at the edge of the crust, the sharp edge of which is rounded off to prevent this; and if it is not sufficient, a thin shoe, twice as thick at the toe as the heels, and wide in the web, is applied, by removing a like proportion of horn from the base of the hoof. The cut part removed is substituted by iron in juxta-position to the parts from whence the horn had been cut away, leaving no space between the hoof and shoe. The test of good shoeing here is, that water will not pass between the hoof and the shoe, or broad bearing on it.

The method of carrying this out is—the groom holds up the horse's foot by means of a strap round the pastern; the shoer then stoops, or rather sits down on his heels, opposite the foot, holding it in the left hand, and in the right hand a cutting instrument, similar to an agricultural bagging-hook with the point broken off; or another, the blade of which is like the English farriers' buttress, only the handle is reversed, and at the side, as the man cuts towards himself. Beginning at the heels, he removes as much horn as before described from the toe, and half as much from the heels, part of the sole and crust being made on the same level.

He places a quoit on the ground, into the hole of which he drives the foot of a small anvil, about three inches diameter; on this he places a thin mould, which, being charcoal iron, is very tough; it is somewhat smaller in size than the size of the hoof, because iron is ductile, so as to be hammered out larger, but the fibres cannot be again contracted in the cold state. When he has hand-hammered the mould to the size of the hoof, its outer edge is under-hammered, by having the flat surface near the edge indented with a chisel, and the outer edge being afterwards hammered, it forms on the edge of the flat surface a ridge, within which large circular nail-holes are punched, over the hole in the anvil. All this is done by the shoer, without assistance, in a very short time.

The shoe is then placed flat on the level part of the sole and crust. The shoe is frequently short, oftentimes not reaching to the points of the heels, which being the part the man begins to pare, is somewhat curved, or not on a level with the other pared parts, but, the points of the heels resting on the shoe, is not considered necessary by the natives,

and these parts are consequently *sprung*, even with the circular shoe; though this is not intentionally done, but arises from the mode of paring and the shortness of shoe, which does not project wider than the heels of the hoof. The nails are then driven obliquely outwards, through a portion of the sole and crust, so as to come out very low down.

The nail is similar to that known in England as the bullock shoe nail, having a large head with the shank proceeding from the side of it, the head being turned as it may be most convenient, to take more or less hold of the sole. The shod foot is then put on a piece of board, while the groom now holds up the opposite leg. The nail-heads being large, and projecting below the surface of the shoe, support the weight while the inner nail-points are broken off and clinched; the points of the outer nails are not broken off, but are turned round so as to form a kind of rivet, which is greater security, than clinching, against the shoe being forced off. Any horn that may project beyond the outer edge of the shoe is cut off while the foot is on the board.

By description, this may appear a tedious method of shoeing; practically, it is not so; and with such strong hoofs a man soon becomes skilful. It is only with flatter soles, which are exceptions in hot countries, or when the crust is much broken, that difficulty arises, because the natives do not understand perpendicular nailing in the crust only. The shoe, therefore, has then to be made by using a larger mould, slightly convexo-concave, similar to the French shoe, which enables the man to still drive the nails through a portion of the sole as well as the crust; this he would not be able to do if he pared the sole level to the broken crust at the quarters. This may be difficult to understand from description; but let a person practically try it, and he will find out the advantage of the native practice, which, in this instance, is similar to the application of the shoe by the French. I have no hesitation in writing it is more advantageous than the English mode of paring away the sole, leaving the crust only bearing on the shoe, and the nails driven perpendicularly into the crust only; under which circumstances, in deep ground, the shoe is very liable to be drawn off, with all the nails in it, the clinches being all drawn through the soft hoof, and even a hard one.*

The shoe is allowed to remain on while nails will retain it;

* On the Surrey side of the Thames, opposite the London Docks, there was, some years ago, and may be now, the Waterman's shed, hung up in which, I saw numerous horseshoes, and on inquiring the reason, a water-

should any nails be lost, these are renewed, till the shoe is very much worn at the toe, and the horn at the toe also much worn; but as it is not worn sufficiently when shod, at the time of shoeing the depth of the hoof and shoe should be less, by one twelfth the width of the base, than the depth of the hoof at the toe of a horse to be rode without shoes, when the depth of the hoof at the toe should be equal to the width of the base, and the depth of the heels half that of the toe; this gives declination to the hoof of 35° from the perpendicular in light fore-quartered horses, but in heavier fore-quartered horses, or in the rainy season, it may be 40° or more, from the points of the heels being pressed upwards or the sole becoming less concave. It should be the veterinarian's object to prevent the former becoming more upright, the latter declining still more, by the very opposite paring and treatment of the feet.*

The shoe used by regular cavalry in India is different from that previously described, being somewhat thicker and narrower in the web, with a coarse German fuller; it is enlarged, and the nail-holes punched cold, and the German nail is used.

The shoe described at pp. 125-6, No. 63, of the *Veterinarian* for March, 1853, for use in cavalry regiments at home, is not adapted for cold shoeing. From the concave upper surface it must be thicker than those now in use in India; therefore objectionable, as the counter-sunk small nail holes must be punched when the shoe is hot, and a shoe with nail-holes cannot be fitted out cold; the counter-sunk nail-hole would have to be large, like the French one, and half punched while hot. The shoe is liable to break at the nail-holes unless the remaining portion be punched cold, after the shoe has been fitted to the size of the hoof.

It may be said, why not adopt hot shoeing? Some French army veterinary surgeons prefer it to the cold. I have not the least objection. I am not interested in the matter now. Where there may not be orders to the contrary, I leave the method of shoeing to the veterinarian's election. All I can write is, whether ordered to Turkey (which is not unlikely) or to India, he will have what I should consider the mortification of seeing irregular cavalry horses' fore feet shod with thin shoes, quite adequate for use in these countries, and with more facility than his own regimental horses, with the

man replied, "You see that wooden bridge in the roadway are iron bars, these have pulled off the shoes we have picked up." "Ferry me over, if you please," I had seen enough of English nailing and shoeing.

* This I cannot go into now.

English shoe lately ordered to be used in the cavalry, by expert English farriers, with "all appliances and means to boot."

Experience will soon show him that forge-carts are great trouble in a hilly, sandy, or boggy country, with unmade roads; and where forge-carts can be altogether dispensed with, the better.

I do not wish any one to adopt these methods of shoeing, under the circumstances I have mentioned, from my opinion. How is it that those who have gone to India to her Majesty's and the Hon. Company's regiments—although, to my knowledge, brought up, like myself, in connexion with a private or army forge, continued these methods? Neither veterinary surgeons or farriers even have adopted hot shoeing, whatever other trifling modifications they have thought it necessary to occasionally introduce. I consider this fact sufficient proof they considered cold shoeing efficient. The recent orders for shoeing cavalry can only be carried out to the letter by hot shoeing. This is throwing additional expense on troop officers, who procure the shoes at present from the native blacksmith, in the bazaar attached to the regiment, and who find camels to carry these and other requisites of his troop. Hot shoeing requires permanent establishment of native blacksmiths, of at least 16 rupees, or £1 12*s*., per month (as European farriers do not work in the forge). The officers will see, by reference to vol. xxvi of the *Veterinarian*, for 1853, at pp. 126 and 234, that it did not originate with veterinary surgeons *who had been in India*—that all those have written against it, and others too. It is, in fact, only the wind-up of a controversy on the practices of shoeing, carried on, at intervals, for half a century.

Thanks to the powers that have been, veterinary surgeons in India have had no connection with the forge; not that it "hurts the character or reputation," but veterinary surgeon and farrier are synonymous. The student brought up as a blacksmith acquires the low habits, manners, and customs of farriers: he may not do so—it depends on the individual; but for this reason he is often cut by

"———— his cousins, aunts, and nieces,"
Perhaps all—"the breed, if it increases."

and by others too; as a country smith styles himself "veterinary surgeon," notwithstanding the Charter. This only, I believe, is what Professor Simonds meant to imply in his introductory address of 1852. The bringing up the student as a blacksmith unfits the mind for acquiring medical knowledge.

But to give an example that these methods of shoeing are fully adequate to the exigencies of the service in India, we will suppose the very opposite (or English) practices to be attempted to be carried out by a young man, no matter from which veterinary school, or brought up in connexion with or without the practice of the English forge; only suppose him to have arrived with a corps of regular native cavalry at the close of field exercise, the beginning of the hot season, when horses' shoes are taken off, and many of the hoofs remain unpared. This young M.R.C.V.S. or not, with his brains chuck-full of English forge notions, would begin by having *all* the horses' hoofs, as he would call it, *well pared* —the crusts lowered, the strong yet elastic thick soles made thin, concave, and pliable under the rule of thumb. The next day the regiment is ordered to march.

Mr. A. Cherry, at p. 503, No. 21, in the *Veterinarian* for Sept., 1849, remarks—"It is important that the way to take off a shoe, pare out a foot, and put on a shoe should be known: for those destined for the army this should be carried *much further, and should be insisted on as a sine quâ non.* (?) A regiment, or part of one, might be placed in such a position that the capability of its veterinary surgeon on this point might be the means of its safety or efficiency." Well, his capability would be put to the test, as he would have to shoe many of the horses himself, the native shoer not being practised in driving nails so *near the quick.* While doing his best, he would complain of his inability to the troop officer, who would inform the commanding officer, who would send for Mr. Drawing-knife, who would begin the *riddle* about the advantages of descent of the sole and expansion of the heels, when he is cut short by the old officer telling him, perhaps coolly or otherwise, "Sir, I will have no more of your London shoeing in my corps; while you are in India you must do as we do;" or he might be sent for three months to learn under an older veterinary surgeon; for, as Mr. Cherry writes on, "it is too important a subject to be neglected: can he teach to others that he does not know himself?" Certainly not; and this is the reason I have thus described the methods of shoeing cavalry in India, although I consider my pamphlet, published in 1825 (now out of print), was more ample instruction. The practice should be seen to be understood; and it is easily acquired by any one who wishes it. I have endeavoured to show that the Asiatic method of applying shoes, either flat or slightly convexo-concave, in the French mode, instead of paring the sole to give a seated bearing of the crust only on the shoe, is founded in the

utility of the practice. Where horses' hoofs are left strong, as in Asia, Africa, Turkey in Europe, Portugal, Spain, and the South of France, there the hoof is most capable of performing what is required, whether in the unshod or shod state. Horses cannot go so well when the hoof is deficient in substance of horn at the base; the foot in this state cannot bear pressure against the ground if unshod, or against the shoe if shod, from descent of the thin sole, which does not happen in the thicker sole; and thus horses go better when the hoofs are strong and they require to be shod, than when the substance of the base has been reduced by being recently shod. This is the reason the native horse-shoer never destroys his own method of nailing by paring the sole concave up to the crust, making the bearing on the shoe so narrow, and the edge of the sole so weak, that, as Mr. J. W. Gloag, in his 9th experiment, observed, "uneven pressure on the sole will cause lameness immediately, as also any pressure when it is thin;" therefore English farriers are obliged to leave space between this part and the shoe: and the late Professor Coleman said this was a *principle* of shoeing, but it is only an unavoidable *practice* of English shoeing, when the function of the foot is thus diminished. Had it been a principle it could not be deviated from, as it was by himself in strong soles, when, he said, "the sole might press on the shoe." Every one has admitted the late Professor Coleman's physiology to be correct, "that the laminæ or bond of union between the foot and hoof is alone capable of supporting the weight of the horse;" therefore, descent of the sole and expansion of the heels cannot be a corollary, from such a demonstration as the kicking mare with drawn soles of the fore feet; and, however some may have understood the late Professor's lectures, it was not his physiology above, when he described those states of the hoof, and bearing on the ground or shoe, in which descent of the sole and expansion of the heels happens. This cannot be the logical conclusion from the foregoing proposition, that the "physiology is to support the weight," when the reverse of this happens, as shown by Mr. Reeve, in his experiments on a foot in the above state, and his corollary, p. 198, *Veterinarian* for April, 1850.

I do not feel it necessary to go into controversy on what occurs under different circumstances of shoeing, any more than I would upon any other practice of the veterinary art. It is sufficient that I inform the student going to India that he has nothing to do with the story of the "Pilgrims and the Peas;" the horses he will there have to do with travel upon

hard hoofs, without any visible descent of the sole, or expansion of the heels, and without lameness. It is not requisite, therefore, to "boil the peas," or, in other words, to produce it by moisture, paring the sole, rasping the crust, bearing of the crust on a seated shoe, one-sided nailing, or any other chicanery, as paring out the corn places, all being quite unnecessary in shoeing irregular or regular cavalry in India; and as to riding horses without shoes, there such consequences, as regards natural hoofs of full proportion, are quite chimerical, the external part of the hoof being very hard indeed; beneath it becomes gradually softer and compressible, yet tough and elastic, so as to receive and support the weight of the horse without concussion or temporary lameness; permanent lameness of the fore feet is rare. These are facts, as any one will very soon practically ascertain; besides, these methods were put to the test by the late Mr. Goodwin, who had twenty fires in Oxford Street practising narrow-seated shoeing; but in the very different position: serving his late Majesty George the Fourth, he did not fear the frown of a customer when his horse did not go to please. He actually in many cases adopted a convex upper surface of the shoe next the foot.

As to turning up the toe of the shoe, this is practised by native shoeers only when the crust at the toe is broken, for reasons I have before explained, to get nailing through the edge of the sole. The ground surface of the shoe being concave (which would increase the thickness and weight), is not of the least consequence over the unmade roads of India.

I beg the reader will not suppose I am prejudiced in favour of these methods of shoeing. I have not had anything to do with the feet or these methods of shoeing cavalry horses since 1835. I have merely described the practices, and the state of the hoofs that came under my observations. What modifications have been since introduced, either by students of the late Professor Coleman or those of Professor Spooner, I do not know. The latter gentleman's work on Shoeing I have never seen; neither am I acquainted with the doctrines he teaches, nor the practices of shoeing at the Veterinary College, nor at Edinburgh; which may do well enough for the latitude and longitude of these places—not from Cape Cormorin to Cabool.*

* The recent orders regarding shoeing cavalry of course went, as a circular, to Her Majesty's Regiments in India. Will these reports, which would be valuable, as coming from the *élite* of the profession, assisted by eminent London veterinary surgeons ever appear in print?

ROARING.

By A. J. Owles, V.S., Carabineers.

Dear Sir,—As I have read and heard a great deal about roaring of late, and have seen, through the kindness of the Messrs. Shutur, Veterinary Surgeons, Ipswich, a case of wasting of *all* the muscles attached to the arytenoid cartilage of the left side, I will write you a plain statement of the appearances the different muscles there presented, when exposed: since I know you seek for the cause and nature of *all* diseases, to give the public the benefit of your experience and knowledge. I send the account of the case for your consideration. We have still to learn the first cause of roaring, as the wasting of the muscles can only be the *effect*. In these cases of derangement of nervous influence, we must try and discover the seat and nature of the derangement of the nerves supplying the muscles of the larynx.

This horse was not a very bad roarer, until within a few months of his death, and was destroyed for another disease. He was well bred, and about eleven years old. The muscles were affected as follows:—The crico-arytenoideus posticus, wasted and pale; crico-arytenoideus lateralis, so much wasted that but few fibres remained, presenting the appearance of muscular fibre; the thyro-arytenoideus much wasted; and the arytenoideus appeared to be quite gone; scarcely a trace remained, though the crico-thyroid muscle on the *same* side was quite healthy, and as well developed as the corresponding muscle of the opposite side of the larynx. We know the last muscle derives its nerves from a different branch from the other muscles which were wasted; viz., from the superior laryngeal, *entirely;* whereas, the four wasted muscles derive their nerves, principally, from the recurrent or inferior laryngeal nerve; from which it would appear that the recurrent nerve, in some cases at least, is the seat of diseased function, which terminates in roaring, from atrophia of the muscles of the larynx.

Believe me, dear Sir,

Yours truly.

Ipswich, *March* 1, 1853.

FATAL CASE OF PROSTRATION OR COLLAPSE,

PRODUCED BY A SHOCK TO THE NERVOUS SYSTEM FROM INJURY.

By A. H. Cherry, Vet.-Surg. 7th P. R. Dragoon Guards.

A chesnut gelding, seven years old, an ordinary sized charger, the property of Lieut. Moore, 7th Dragoon Guards, while being ridden by a dragoon at exercise, on the morning of the 23d of February, 1854, took fright on a short bit of straight road, terminating at right angles with the main road, making directly for a formidable looking wall on the opposite side. The rider endeavoured to turn the horse to the right, which he failed to do. This putting him off his stride, he, instead of rising, breasted it obliquely, precipitating the man some yards over the wall into the field beyond, which, fortunately, chanced to be a grass one: he himself knocking down completely and dislodging *nine* yards in extent of solid masonic structure, in height five feet six inches, in thickness *two* feet six inches. From the quantity of masses lying dislodged, their weight was computed at two tons, not to say a word about the force of the impetus necessary to cause such a breach. He fell, of course, on this side of it, and, for some time, was thought to be killed; but in the course of half an hour he rallied, and assisted himself, and was subsequently supported and propelled, with the assistance of the railway porters (near which the occurrence took place); and it was with great labour and exertion they succeeded in getting him to the hotel stables, a distance of nearly a quarter of a mile, and a mile and three quarters from the barracks. At an hour afterwards I first saw him. He was standing in a constrained state, and could only attempt to move, and then his back was arched to a painful degree. He appeared to be suffering from a severe shock, accompanied with great nervous depression. Extremities cold. Respiration diminished. Pulse slow, weak, and slightly fluttering. No external wound could be detected, except at the inferior margin of the lower maxilla, where there were slight abrasions, which parts must have come in contact with the top stone facing of the wall. The ears were directed to be pulled; the legs bandaged, and hand-rubbed alternately; and he was ordered to take instantly, Spts. Ætheris Sulph. Co. ℥iss, Alöes Barb. ℥j. made into a draught to be given in gruel; which temporarily roused him: his eye seemed brighter, and he put his nose into the manger, as if desirous of eating. The pulse remained the same.

3, p. m.—Much in the same state. No evacuations have taken place; he seems to evince pain on pressure of the spinal column over the region of the lumbar space. A recently killed sheepskin was directed to be applied to that part. He seems to have a desire to eat: damped hay, bran mashes, grated carrots, and oatmeal gruel were to be offered to him in rotation. General treatment and friction of extremities to be continued; and to have administered, Aloës Barbad. ℥ss, Spts. Ætheris Nitrici ℥ij, in gruel.

8, p. m.—In the same state; no reaction appears likely to take place. The same orders given as above.

℞ Spts. Ætheris Nitrici ℥ij, Camphoræ ʒj, Spts. Rect. ʒj, M. ft. Haust., in gruel. To have an enema. I left him in charge of my sergeant, who reported to me on

24th, 1, a. m.—He had passed a large quantity of hard fæces, which he likened to snowballs. This was thought a favorable symptom.

9, a. m.—I saw these alvine evacuations, and the simile was not at all inapt, for they were densely covered with thick white mucus. No alteration whatever appears in any symptom. Is perfectly conscious of everything about him.

4, p. m.—He was again visited; when the attendant informed me that purging had commenced at about 2 o'clock that day, and was going on favourably, without producing pain or any increased irritation This establishment of a passage through the prima via was viewed with pleasurable anticipations. No other perceptible improvement, except an increased desire to eat. The draught he got at 8, p. m. on the previous evening, was repeated; and, as the sheepskin was becoming foul, it was directed to be replaced by another.

9, p. m.—All treatment has as yet failed in producing reaction. No urine has yet been passed. Continue the same treatment, and repeat the draught.

25th, 11·30, a. m.—Appears slightly better, but the pulse remains the same. No urinary secretion has yet escaped.

4, p. m.—The æther and camphor draught was repeated.

8, p. m.—Is to night extremely sensitive and nervous; starts at his own shadow; is more affected on the approach of strangers; is obliged to be supported, to prevent his falling; but his general system remains in the same state. The draught was again repeated.

26th.—The servant came in a great hurry to the barracks this morning, to inform me that the animal had fallen, and that he thought he would not live until my arrival.

7, a.m. I was soon with him. He was lying in a peculiar position, preventing the entrance of any one by the door;

and was frothing at the mouth; the breathing as before, not altered; there appearing to be total suspension of the powers of the intercostal muscles, from paralysis of the nerves supplying those muscles with aid to assist respiration; and all along this duty towards nature was performed by the diaphragm only. The existence of pain was manifest: he was placed in a correct position, and conjecturing that, from his not having passed any urinal evacuations for three days, the possibility might be, that to a certain extent this might be caused by retention of urine in the bladder; I accordingly passed a catheter, but without inducing any discharge of that fluid. The pulse was slightly fuller, but this might be accounted for from his recumbent posture. I had his jugular vein opened, and extracted about lbs. viij of blood, which proved of a thick consistency, and immediately coagulated, forming a very thick buffy coat. This was all he could afford to lose. No single step towards reaction was made until after another draught was administered, and that only produced a temporary brilliancy of the eye, which was of short duration. He had completely lost all power of use over the extremities.

4, p. m.—I visited him for the last time, and he appeared within a few hours of dissolution; the eyes were becoming glazed, and a particular action of the chest, which I have never before witnessed in the horse—a kind of diaphragmatic action resembling hiccough, distressing, to all appearance, but to which I believe him to have been either perfectly insensible, or to have been deprived of the nervo-muscular power of exhibiting it: the latter, in my opinion, is the more probable. As death appeared so near approaching, and taking into consideration the period that had elapsed since the injury, and the slightest symptom of reaction or recovery so totally hopeless, I suggested to its owner its destruction, for the sake of humanity, which was immediately carried into effect, through the medium of a musket. Death, or apparent death, was instantaneous: he relinquished life without the effort of a struggle; thus evincing that the motor portion of the nervous system had received the greater part of the violence of the shock.

Sectio cadaveris, 20 hours after death.

External appearances.—The body having been stripped of its natural covering, the skin, in external appearance presented no indentation, appearance of fracture, bruises, or the consequent result of effusion into the cellular tissue, more particularly at the point of the sternum, the part that first received the blow, or any other visible irregularity.

Thoracic cavity.—Lungs unusually sound, no traces even of

former disease ever having existed. Pleura free from adhesion, and any tendency thereto. Heart rather large, but perfectly healthy. Diaphragm intact and healthy.

Abdominal cavity.—The stomach contained a moderate quantity of well-assimilated food, and was healthy; the intestines generally, and their contents, the same; but the odour of the æther neutralised the ordinary fetor attendant on opening that cavity, to that extent that made it anything but disagreeable. Liver and spleen particularly healthy; kidneys the same.

The structure of the bladder healthy, but it contained about a quart of thick glutinous matter, of a brownish colour, so dense as to render its transmission through the orifice of the catheter almost impossible.

The entire spinal column was separated from the rest of the body and deprived of the adjacent muscles, and examined carefully externally; but no displacement or other irregularity could be detected. The spinal canal was not opened, as I had neither the implements, time, nor assistance, to complete so tedious an examination as such would have been, and I conceive that such labour would not have thrown any further light on the subject; my opinion being that it was a pure case of prostration or collapse, or shock to the nervous system, accompanied with a general depression of the powers and actions of life: recovery or death taking place in proportion to the powers, period, and general state of the animal at the time the shock was received.

Cahir Barracks, Tipperary;
March, 1854.

EXTRAORDINARY CASE OF LABORIOUS AND DIFFICULT PARTURITION.

By M. Younghusband, V.S., Greystoke, Cumberland.

The season of the year is again returning when cases of difficult parturition will be met with, and minor practitioners, as well as those of the veterinarian profession, no doubt, will be called upon to lend a helping hand. From this inference, permit me to relate a case of the most difficult, yet most fortunate, of manual extractions of the fœtus in cows, that I ever remember to have met with. It is not from the singularity of the case that I record it, as many such, no doubt, will have occurred in a general cattle practice,—but from the

extreme difficulty of extraction, and the rapid recovery of my patient afterwards. At the same time, it may prove a stimulant to some of the junior members of the profession who are upon the eve of their *debût;* and, as Mr. Myers well observed, not to throw away a chance,—for "as long as there is life there is hope." . . . . .

December 20th, 1853, a friend and neighbour of mine, a Mr. Holmes, purchased a cow of a neighbour, the same being near her regular time of calving. On the 22d, he received word that the cow was getting uneasy, and that he had better send for her home; which was accordingly done. This being in the morning, and the cow noway remarkably uneasy, she was allowed to remain without much notice until evening, when she began to show signs of more acute pain; at which time the owner called in his father, a person who has had a part experience in such matters, though, since he became a near neighbour to me, through courtesy I believe to me, he has declined to act, except in cases of emergency, or my being from home. He attended; he examined the beast, and found himself at fault. From this circumstance, a messenger was despatched for me. On my arrival, I found my patient in no very uneasy position, she being standing with her tail a little elevated, and at times straining a little, as if wishing to void something; though, in other respects, she did not appear much ailing. I now made an exploration of the parts of generation, and found the labia pudendi and os uteri well relaxed. Introducing my hand and arm still further, I soon found it was no ordinary case we had got to deal with. A little further examination gave proof that the fœtus was lying upon its back, with a breech presentation; the hind legs being thrown forward upon the abdomen, and reaching so far that the pastern-joints were flexed, and the fore-feet had dropped down behind each shoulder; the fore-legs lying towards its haunches, with the head doubled back, and lying against, or rather behind, the shoulder. The first thing I attempted towards its extraction, was to reach and bring forward one of the hind legs and foot; but in this attempt I was dead beat, from, I think, a state of natural contraction. I then tried the other leg; but with no better success. In this dilemma, I advised my friend to give his skill another trial; and, from my instructions, he being a powerful man, I had good expectations; but the result ended in nothing. There was evidently now no other resource but to try embryotomy, which I did, and after the utmost perseverance I succeeded in removing and bringing forth one of the hind limbs; after which I expected to have extracted the

other in an easier manner; but this was not done without a great deal more labour, more time, and more anxiety than I had anticipated; all which arose from a malformed and contracted state of the limb. Those two members being removed, the contents of the abdomen were withdrawn; after which, we expected to have an easy removal of the remaining portion of the fœtus. But not so: for after a difficult attempt to fix a cord around the remaining hind part, I at last succeeded, and being now much exhausted, I waited awhile to refresh myself, offered the cow some warm gruel, of which she freely partook, having all this time, and under such trying circumstances, kept upon her legs, a most favorable position for us. Again we renewed our labours,—and *labour* it was, for we progressed very slowly, if at all, towards accomplishing our end; for, from malformation and other causes, we could not, with all our force, bring the remaining portion of the fœtus into the bones of the pelvis. I now had recourse to turning, which, after a long-protracted and laborious struggle, was brought to a happy issue. I then desired my friend to try to raise the fore-legs and feet; but he being unable to do so, I had to take my post again, and, with the greatest difficulty, succeeded. I next tried to bring the head into a right position; but this was not to be done. So we fixed strong cords to each fore-leg, a strong hook with cord attached to the breast, and by dint of pulling—and *pulling* it was—succeeded in bringing a portion of the carcass into the bones of the pelvis; but here again we were baffled, all our united strength not being able to stir it an inch, notwithstanding there were three of us, and none of the smallest. The cow was now down, and getting weak. At this period, after so much toil and anxiety, and so little hopes of success, I almost shrank from my task, telling my employers that I had very little hopes of succeeding or accomplishing the extraction; and, moreover, that the cow, in my opinion, would certainly die; to which opinion they quite assented. After standing and viewing our patient awhile, and discussing the subject, we agained renewed our labour; but with no better success. Thus we ended again. The cow was now apparently exhausted, we offered her a little warm gruel, of which she partook sparingly. We were now on the point of departure, as we had been beat in every attempt, when the owner remarked, "We will just make another trial;—things cannot be worse;—there is a chance." Now, as we considered the cow's dissolution inevitable, we would, for the praise of extraction, try again. So to it we went. We gave another pull, a strong pull, and a pull altogether; and, by most unmerciful pulling,

we succeeded in extracting the remaining mutilated portion of the carcass, which so long had baffled all our efforts. Our end was accomplished. But all hopes of saving our patient had fled. We now made her as comfortable as we could, administered a small draught, and left her to get washed and cleansed. In a short time we returned to view our patient, whom we found in a most exhausted state, stretched out at full length, with head protruded, mouth open, with foam issuing therefrom, limbs stiff, her whole carcass chilly. Need I state our opinion? Still there was life, so we gave that life a chance; administered a powerful stimulant; had her well done up; and left for a short time. On our return she appeared improving; her legs were drawn towards her abdomen; her neck and head were in a more natural position; in all, she was in a more favorable state. So after giving instructions for her future management, I left for home, intimating I would visit her again in the morning, which I did; and, to my utter astonishment, found her upon her legs, and much improved. From this time, with careful attention as to nursing, &c., with the aid of a little medicine, she steadily and rapidly improved, and in the course of a week gave a fair supply of milk, and in a couple of weeks was entirely convalescent.

Remarks.—It may be said that in all this there is nothing new. But, gentle reader, whoever thou art, it is not the peculiarity of the case that makes me write; but place yourself, by thought, in my situation, toiling for hours in the case of a suffering animal, tortured, no doubt, to the extreme. Picture to yourself the chances of mutilating the uterus from the use of the knife, the unmerciful pulling which we had to have recourse to, and I think you will join with me in saying, that her recovery was miraculous; and, as I have before stated, in another paper, "that the resources of nature, in everything that relates to parturition, are infinite." Likewise, the case shows, that a fœtus may be extracted with its head thrown back;—and, moreover, that we should not despair, so long as the life of our patient warrants our interference.

CASE OF PENETRATION OF THE ŒSOPHAGUS.

By Robt. Nicholson, M.R.C.V.S. Wormersley,
near Pontefract, York.

Sir,—On the 26th of November last, I was called in to a horse belonging to Mr. Poskill, farmer, of Darington, near

Pontefract. It appeared that a ball had been procured from a druggist, and intrusted to a farm servant for administration; this person proceeded to work by placing the ball upon the end of a *stick*, and, after a short effort, he succeeded in *destroying the ball, and penetrating the œsophagus;* breaking off *six inches* of the stick, and leaving it buried in the adjoining muscle. After performing this exploit, he threatened his helper, an Irishman, with vengeance if he divulged a word of the matter to his master. The latter, partly true to his promise, mentioned it to his *mistress*, as he was not bound to keep the secret from *her*, but "*only the masther.*" However, as it was dark, and nothing could then be seen of the stick, I was obliged to wait until the next morning, when I succeeded in extracting it: very great force being necessary, from the inflammation and swelling present, the stick having been in the animal's throat 26 hours. By care and proper treatment the animal has since recovered.

I think it is right to note this case, since both the owners of animals and the members of our profession are liable to deception from the misrepresentation of servants, desirous of screening their own ignorance or their idleness.

I am, Sir,
Your obedient servant.

WORMERSLEY, NEAR PONTEFRACT,
YORKSHIRE; *March* 13, 1854.

TREATMENT OF BURSATTEE.

[A printed paper, of which the subjoined is a *verbatim* copy, has been sent to us by a veterinary surgeon of the H.E.I.C.'s service, as the original "circular letter" addressed to the several Indian regiments of cavalry and horse artillery, containing the Apperleyan formulary for the cure of bursattee (or bursautee), to be deposited for the guidance of the veterinary surgeon of the regiment in the adjutant's office.]

On the first appearance of a bursattee sore, stop all gram, and feed on cooling diet; give 2 or 3 grains of calomel, made into a small ball, morning and evening, till salivation takes place, which in general shows itself about the 7th or 8th day, when a dose of purgative physic should be administered. In the course of a week or ten days after the physic has set, should the sores not appear healthy, repeat the salivation and physic. Sometimes in obstinate cases a third salivation is necessary; and it is advisable after all sores are well healed

to slightly touch the mouth again, to guard against the disease breaking out in future.

I have never found any bad effects arise from salivating a horse, beyond his being unable to eat dry food for a few days; the healthiness of the gums and breath are soon restored by syringing the mouth occasionally with alum and water.

The treatment of the sores is simple, but requires cleanliness and care: on the first appearance of those dark-coloured ulcers with ichorous discharge, that cannot be mistaken, they should be dressed with black wash, applied on clean lint every four or five hours, which will assist the operation of the calomel pills. About the 3d or 4th day, by sponging the sores, small kunkur stones will show themselves, which must be carefully scooped out with the finger, and the sore dressed with green ointment, applied warm, and covered with clean lint, which will cause all diseased parts to separate or slough off. The sores must be washed and dressed twice or three times a day and searched for kunkur; if one bit remains the sore will not heal till the cold weather sets in, and then the seed of the disease is left behind.

If the edges of the sore require eating down, a powder, composed of equal parts of sulphate of zinc and blue vitriol finely powdered, should be rubbed in; but when they begin to look healthy they may be healed, like any other sore, with Ægyptiacum, tincture of aloes, calamine ointment, &c. &c.; but great care must be taken to secure the horse, or he will rub or gnaw any sore he can get at.

Green Ointment is made as follows:

Hog's Lard	2 lbs.
Common Turpentine . . .	2 lbs.
Verdigris, pounded . . .	1 Ounce.
Spirits of Turpentine . .	1 Ounce.

Warm the lard and turpentine together, and stir in the verdigris over the fire; and the spirits of turpentine when nearly cool.

N. B.—Salivation as described above, and black wash applied with slight pressure to the coronets, IS THE BEST OF ALL CURES for that troublesome disease called Quittor, if resorted to in the early stage of the complaint.

MR. PEACH'S CASE OF "HYDATIDS."

(To be found at p. 80 of this Vol., No. 74.)

DEAR SIR,—In compliance with your request, I send you a few more particulars in reference to the hydatids found in the shoulder of the horse belonging to W. Elmhirst, Esq., Round Green, near Barnsley.

I have seen that gentleman, as well as the man who took off the skin, and the farmer who drove the horse. When the muscles of the shoulder came to me they were in such a mutilated state that I did not observe any *cyst*, having only just time to get the package to the railway-station that evening, fearing decomposition.

Mr. Skinner said they were *in a bag* which lay betwixt the shoulder and the ribs; that he cut off a portion of the bag, and then the productions escaped.

The man who drove the horse in the farm informed me that he worked very well to the last, except when (not having free use of the shoulder) stepping over rough ground.

The accident occurred in the presence of the coachman, by rushing against a gate-post, on the 7th of December, 1841. He was under treatment till April or May, 1842, having been repeatedly blistered. The injury was considered the only cause of lameness. He was in his 30th year when destroyed. I have not yet been able to reclaim the bones; but I have no doubt there was considerable disorganisation about the shoulder-joint.

VETERINARY JURISPRUDENCE.

SERIOUS CHARGE OF FRAUD IN A HORSE TRANSACTION.

William Brown, a horse dealer and trainer, of Carlisle, and *William Carlisle*, a farrier, &c., of Wigton, Cumberland, were charged by Mr. Thomas Sibson, of Grinsdale, near Carlisle, with fraud in a horse transaction. Mr. Sibson, solicitor, of Carlisle, conducted the prosecution, and was assisted by Mr. Noble, of this town; Mr. Watson defended the prisoners, who were arrested on the previous Friday night, at their respective residences, and had been in custody up to the time of the hearing of the case.

Mr. Noble having stated the circumstances of the plaint,

called *Mr. Thomas Sibson*, who deposed: I live in Grinsdale, in the county of Cumberland. On the 23d of December last I sold a bay mare, at Carlisle, to William Brown, for which he was to give me £39, and upon that sale I delivered it to him at Carlisle on the 31st of December. He did not pay me for it then, but was to pay me for it as soon as he returned from Preston fair, whither he said he was going to take her. As far as my judgment goes, the mare was then sound. Brown knew her previously, as he had had her a month before that, and was perfectly aware of her condition. She was under his charge for breakage, for riding and driving, for a full month. On Tuesday morning, the 3d of January, I received a letter from him. [The letter was here produced, and read by Mr. Noble. It ran as follows:—]

"Sir,—The mare I bought from you is unsound in her wind. She has been examined by a veterinary surgeon, who pronounced her a 'roarer.' On the account of her being 'slape' when I bought her, I could not examine her as to wind. I must request an answer by return of post, to know what must be done with her. I could have sold her well but for that defect. Direct to Mr. Brown, at the White Horse Inn, Preston.—Yours respectfully, WILLIAM BROWN."

From what has since taken place, I know that that letter is in William Carlisle's handwriting. I came off to Preston immediately, and arrived at the station at a quarter-past eight o'clock the same night, and got to the White Horse at nine o'clock. Brown was not in then, but I met with both the prisoners that night. I asked Brown to let me see the mare, and the answer he gave me was that I could not see her; she had gone away that afternoon at four o'clock. I then asked him who was the veterinary surgeon that had examined her, and he said William Carlisle, who was then in the house. He said he had sold the mare to a stranger from Woolwich—at least to a gentleman who said he was going to take her to Woolwich. Brown said he believed she was intended for the army. I asked him why he had not waited for my letter, and he replied that he expected an answer that morning at ten o'clock, and it had not come.

Mr. Noble called the attention of the Bench to that fact. Brown sent the letter on the Monday, and expected an answer by ten o'clock next morning. It was impossible he could get one.

Examination continued:—He said he had done all for the best, and had sold her for £27. William Carlisle comes from Wigton, and is a veterinary surgeon. Brown and I went to the bar of the White Horse Inn, where Carlisle was sitting.

Next morning, Carlisle assisted me in looking for a horse, and I bought one from Mr. Robert Walker, of Thistleton. On that occasion Carlisle wrote a warranty of the horse in question. I asked him whether he had examined my mare for Brown. He said he had, and that she was a confirmed "roarer." I asked him how he examined her, and he replied, "I got upon her back, galloped her, pulled her suddenly up, and she roared out like a bull." He said he did not know what Brown had sold her for, but he had heard £55 bid for her. He said he got Brown to lock her up, as there was a report flying through Preston that he had brought a "screw" to the fair. Believing, then, that all I heard was true, I accepted the £27, and returned £1 towards expenses. I then returned home, but made various inquiries about the matter afterwards; and on the 6th instant went to Wigton, and saw Carlisle, who said he had nothing to do with it except writing the letter for Brown. He said then that he had never examined her, and also that he had heard Brown asking £55 for the mare. On the 7th of February I saw Brown, and told him I had been in correspondence with other parties about the matter, and he then told me that all he had said was true. I said, "You told me you had sold her at four o'clock on Tuesday," and he said he had. I remarked that I knew different, and he replied "Well, then, what is the use of asking me?" I told him I knew the mare was in the stable at the White Horse, when we were there together, and that she was locked up. His answer was. "Well, we keep them all locked up."—By *Mr. Watson:* For anything I know the prisoners are considered respectable men. I sold the horse to Brown for £39, which was to be paid when he returned from Preston. Mr. Hodgson, of Carlisle, was present when the bargain was made. It was for £40, and £1 back. There was nothing said about the time of payment when Mr. Hodgson was present. Brown came to me on the evening of the day he bought her, and said he could not pay ready money. I delivered the horse to him on Saturday morning, the 31st of December. I am qnite sure that all I have said is perfectly true. Brown has been constantly in the neighbourhood of Carlisle ever since.

Mr. Watson: Have you not frequently demanded the payment of the difference between the price you sold the mare for, and the price he gave you?

Mr. Sibson: Only once; on the 7th of February, when I told him he had defrauded me out of £13.

Mr. Watson: Have you not had to make an apology in the newspaper for defamation of character?

Mr. Noble objected to the question, which had no relevancy

to the merits of the case. The prosecutor was not obliged to criminate himself.

Mr. Watson: I am only testing his credibility.—Have you not had to make an apology in the newspapers for traducing the character of a female?

Mr. Noble again objected, and

Mr. Watson hoped the magistrates would remember that the prosecutor declined to answer the question.

Mr. Noble, to the prosecutor: Like all young and foolish gentlemen, you have made engagements with young ladies you have not always fulfilled?—Yes.—(Laughter.)

Henry Cross, examined by *Mr. Noble:* I have been ostler at the White Horse for seven years. Carlisle and Brown came to the house together on Saturday afternoon, the 31st of December, between three and four o'clock. They brought three horses and a bay mare. The three horses were put into one stable, and the mare into another, by the direction of Brown. He said the mare was his own—he had bought her. [*Mr. Watson* called the attention of the bench to that fact.] I saw the mare offered for sale in the yard on the Monday. Heard forty guineas bid for her by a horse-dealer, and she was sold about five minutes after. Brown told me himself he had sold her, and directed me to lock her up. He said he expected a gentleman coming to inquire after a bay mare, and I was to say she was sold and had gone away. I saw Mr. Sibson on the Tuesday night; she was then in a loose box, locked up.

By *Mr. Watson:* I don't know the price paid for her to Brown. Mr. Barker [to whom the horse had been sold] paid for hay for two nights. The mare went away on the Wednesday morning.

By the *Mayor:* I am sure the mare was in the box till the Wednesday morning. I had the key of the box, and nobody could get into it without my permission. Brown ordered me to let her go. Mr. Barker was not the same man that I heard bid forty guineas.

Mr. Noble then applied for a week's remand, for the purpose of procuring the presence of Mr. Barker.

This was opposed by *Mr. Watson*, who said the defendants were from home, and probably could not procure bail here; it was a preposterous request. Besides the case might have been gone into at Carlisle, which would have been far more convenient for all the parties concerned.

Mr. Noble remarked that if the case had been taken before the magistrates at Carlisle they would have sent it to Preston, as the whole of the transactions had taken place here.

After a short consultation the Bench remanded the case for a week; but were disposed to let the prisoners out on bail if they could get respectable sureties. They must enter into their own recognizances of £50 each to appear next Monday, and find each two sureties of £25, or one of £50.

Mr. Brown was bailed out immediately after the close of the inquiry, and *Carlisle* was liberated on Wednesday, on the bail of his brother, who had been written to for that purpose.

The case came on again for hearing on Monday week, when *Mr. Barker* the purchaser of the horse, was in attendance. He deposed that he gave £32 for the mare, and produced a warranty, signed by Brown, that the animal was sound in wind and limb; that he bought her on the Monday morning, between nine and ten o'clock, and did not take her away till the Wednesday morning. There was nothing further of interest in this neighbourhood elicited; and *Mr. Watson* having replied to the whole case, the prisoners were committed for trial at the forthcoming Liverpool assizes—the same bail as was put in before being again accepted.

HARDWICK *v.* SQUIRES.

Mr. Serjeant Miller and Mr. Miller appeared for the plaintiff; Mr. Edwin James, Q.C., Mr. Lush, and Mr. Norman for the defendant.

This action was brought to recover damages for the wrongful conversion of a horse. The defendant pleaded the general issue, and also that the horse in question was not the property of the plaintiff. The plaintiff was a livery-stablekeeper and horsedealer in Chenies-mews, Bedford-square, and the defendant carried on a similar business in Davies-mews, Grosvenor-square. It appeared that in the autumn of last year the plaintiff had a bay horse, which he was anxious to dispose of. For this purpose he employed a person named Mowatt, who had been for some months in his employ in selling horses. It was arranged that the price of £27 should be put upon the horse, but that if Mowatt could obtain a larger sum he should have the difference for his trouble. The horse was advertised, and a person named Tuck, who pretended he was coachman to a Mr. Esdaile, a pretended gentleman at Clapham, came and agreed to purchase the horse for the sum of £32. It was arranged that the horse should be taken to the defendant's stables, and

that a Mr. Parsons, a pretended clerk of Mr. Esdaile, would come and pay the money. The horse was accordingly taken to Davies-mews, and left in custody of a boy in the street, while Mowatt and the pretended coachman and clerk adjourned to a public-house, called the Running Horse, to settle the transaction. Mowatt was asked for a receipt for the £32, and accordingly produced one regularly stamped, which he handed over to the pretended clerk, who was, in fact, a porter at Billinsgate, named Clow, and received in exchange seven sovereigns and a dishonoured acceptance of his own for £25. Mowatt insisted upon having the receipt returned, but this was refused. He then went to look after the horse, but, in the meantime, it had been got into the defendant's stables, and the defendant refused to part with it. The plaintiff subsequently called upon the defendant and demanded the horse, but the latter refused to give it up, though the plaintiff offered to give him an indemnity for any action which might be brought against him.

The defence was that the horse in question was not the plaintiff's horse, but that the plaintiff had admitted it belonged to Mowatt. It was acknowledged that the horse had been obtained from Mowatt by a ruse, in return for a dishonoured acceptance of Mowatt's and seven sovereigns. It appeared by the evidence given on the part of the defendant, that a young gentleman named Minter had been led by an advertisement which appeared in the *Times* to deposit the sum of £32 with Mowatt, at the Boar and Castle, in Oxford-street, as security for a horse which he had taken on trial. The horse turned out to be broken-winded, and fell down from exhaustion on the first trial; but Minter, failing to get back his money, had Mowatt taken into custody for swindling. No proceedings, however, were taken, Mowatt having returned seven sovereigns to Minter, together with his acceptance for the sum of £25, which he afterwards dishonoured. Some time after Minter saw an advertisement in the *Times* for the sale of this bay horse, "the property of a deceased gentleman," and thinking from the style of the advertisement that it was one of Mowatt's drawing up, he went to Chenies-mews and saw the plaintiff, who told him that the horse in question was the property of Mowatt. A detective policeman named King was then consulted, and it was arranged that Tuck and Clow should purchase the horse, and give in part payment Mowatt's own dishonoured acceptance. This was accordingly done, and the horse was deposited in the defendant's stables, whence it was afterwards taken away by Minter.

Lord Campbell left it to the jury to say upon the evidence whose property the horse was.

The jury gave a verdict for the plaintiff—Damages, £25.

DARNELL (CLERK) *v.* BLACKETT.

Mr. Sergeant Atkinson and Mr. Addison appeared for the plaintiff; Mr. Sergeant Wilkins and Mr. Davison for the defendant.

This was an action on the warranty of a horse. Defendant denied the warranty and the fact of unsoundness.

The plaintiff is the rector of Stanhope; the defendant is a small farmer at Harperley, a few miles distant. In October last plaintiff had two carriage-horses. He wished to dispose of one which was old, and instructed his coachman, William Bean, to do so, and buy another. Bean met defendant in Stanhope, who offered to sell his black horse, which was four years old, and had formerly been an entire horse, and was then cut, warranting him sound, good-tempered, and quiet in the stable. Accordingly, after driving him a few miles in the carriage, a bargain was concluded for £45, £20 being allowed as the value of the plaintiff's horse, which defendant took in part payment. Soon afterwards, according to the evidence of the coachman, the horse exhibited vice and unsoundness. The next day he became sulky when put into a cart, and a week afterwards he was three miles out and back with the carriage, and became lame of his near hind leg. On other occasions he did not go kindly, and once attempted to bite the coachman's feet when riding him. Defendant was required to take him back, but refused, and on the 9th of November he was sold at Hexham fair, without warranty, for £13 10*s.*

Henry Pickering, to whom the horse was sent to grass in 1852, deposed to a temporary lameness in that year.

A veterinary surgeon also spoke to a lameness in that year, but declared that he was now quite sound, and worth £40.

Several other witnesses being examined for the plaintiff,

Mr. Sergeant Wilkins addressed the jury for the defence, and called, as his first witness, Mr. Hunter, who purchased the horse at Hexham fair, and who now declared that the horse was perfectly sound, and that he would not take less than £50 for him.

Upon this the jury interposed, and declared that without hearing any more of the defendant's witnesses they had made up their minds to find a verdict for him.

Verdict for defendant accordingly.

STAVELY *v.* CARTER.

In the Court of Common Pleas, an action was brought by Mr. Stavely, a veterinary surgeon at Highbury, against Mr. Carter, a horsedealer at Burwell, Cambridgeshire, upon a warranty that a black mare, sold by the defendant to the plaintiff for £120, was sound and quiet to ride and drive, whereas it was alleged she was both unsound and unquiet. In August last the parties were introduced to each other, and immediately afterwards went to look at the mare in question, which the defendant represented as a very extraordinary animal. The plaintiff having seen her trot, and fast-trotting horses being his "hobby," engaged to buy her, and gave a check for the money; but this check being irregularly drawn, was refused by his banker, upon which a quarrel ensued between the parties, and the purchase went off. The next day, however, negotiations were resumed, and a proper check being given, a receipt was given, in which the mare was "warranted quiet to ride and drive, and sound." After taking the mare home, the plaintiff rode and drove her himself and by others, and found her to be restive and unmanageable, so that he was obliged to drive her with double reins, and it frequently took two persons to hold her. At the end of August the mare was tried against a well-known trotting horse called the Artful Dodger, and was beaten; and on the 22d of September the plaintiff wrote to defendant, complaining that she was not quiet to ride and drive, and requesting that he would take her back. Some correspondence ensued, but nothing was said about her being unsound until the plaintiff had consulted his attorney, after which the attorney wrote, and, in addition to the plaintiff's complaints, complained that she was "a whistler." The defendant refused to take her back, and ultimately she was sold at Tattersall's, and the plaintiff only received a balance of £41 4*s.*, after deducting the expenses. Evidence was now given on the part of the plaintiff to prove that the mare was not quiet to ride and drive, and several eminent veterinary surgeons deposed that she was "a whistler." They admitted, however, that she might have become so since the

plaintiff had purchased her, and this was the defence relied on.

Mr. Justice Talfourd having summed up the evidence, the jury returned a verdict for the plaintiff for £78 16*s*.

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Veterinary Medicines: their Actions and Uses. By Finlay Dun, V.S., Lecturer on Materia Medica at the Edinburgh Veterinary College, 8vo, pp. 412. Sutherland and Knox, Edinburgh, 1854.

So near akin as the work now upon our table manifestly is to the one which occupied our attention last month, it might be expected, we should seize the present occasion to institute comparisons between them; and in so doing, draw such inferences as their respective merits and demerits appeared to warrant. We have, however, chalked out in our mind no such course to pursue; but, rather intend to avoid comparisons, which are but too apt to prove "odious;" and to let the present, as we did the last work under "review," stand upon its own bottom, *i. e.*, speak for itself; and thereby afford our readers an opportunity of judging for themselves, and coming to their own conclusions concerning the two.

Mr. Dun, who is already known to us as the successful author of some "Prize Essays," read before the Agricultural Societies of England and Scotland, comes out, on the present occasion, for the first time, as the author of a work whose title almost would argue its pretensions to stand upon the same library-shelf with the standard productions of our art, did not its merits claim that honour without fear of rejection. We may henceforth rid our libraries of a host of valueless books "on Farriery,"—we live in an age when such are worth no more than the paper they are printed upon; while we cherish rare and choice productions, like the one before us, as

promising to lead the way to reform and amendment in veterinary literature.

In his "Preface," Mr. Dun tells us that his reason for setting about the composition of the present work was, "during the four years in which I have lectured on Materia Medica at the Edinburgh Veterinary College, I have endeavoured in vain to find a *suitable* text book for my class. *The meagreness and inaccuracies of the published works on Veterinary medicines*, are such as to have compelled me to use Christison's Dispensatory," &c.

This is undeserved, on the part of *one* work at least, of the same class, which came out some years ago, a *fifth* edition of which has this year been called for. The denial puts one in mind of the old ballad,—

> "Through all the employments of life
> Each neighbour abuses his brother!"

Bracy Clark's PHARMACOPŒIA EQUINA was certainly a singular failure; and the more extraordinary this, when we come to learn how high the name of Bracy Clark stands as a writer in the literary circle of our own country, and with scientific men in other countries, as well as our own. No man, perhaps, ever wrote so learnedly so much to so little purpose.

The contents and arrangement of the (present) work are as follows:—"The general actions and uses of veterinary medicine, and the more important pharmaceutical preparations, are treated of in the INTRODUCTION. The rest of the volume is occupied with the consideration of the medicines used in Veterinary practice; the points chiefly dwelt upon being their natural history, preparation, properties, and most common impurities and adulterations; their general actions on the various domesticated animals, and their uses, doses, and medicinal forms."

The works Mr. Dun has chiefly consulted in the preparation of his volume, he says, are, Professor Christison's 'Dispensatory' and 'Treatise on Poisons;' the late Professor Pereira's 'Elements of Materia Medica;' Mr. Headland's 'Essay on the Actions of Medicines;' the 'Edinburgh

Pharmacopœia;' Professor Hertwig's 'Praktische Arzneimitellere fur Thievärzte;' and Moirand's 'Traité Elémentaire de Matière Medical en Pharmacologie Vétérinaire.'

With such mines of knowledge as here lie open to him (to which he might have added those of Bourgelat and Delafond on the Continent; to say nothing of veterinary productions of the same class, scanty though they be, of our own country,) it was Mr. Dun's fault if he did not compile a creditable work. But he has not merely done this; he has produced one of first-rate order,—one that will soon be in the possession of veterinarians on this side of the Tweed as well as on the other,—and which will, for the time to come, stamp him as one of the stars of the veterinary profession.

The extracts we are about to make from the work will, we opine, fully bear us out in the high character we have given it. Beginning with the

"INTRODUCTION.

"Veterinary Materia Medica, in the extended sense of the term, treats of every agent, material or immaterial, which is used for the cure of disease or injury, or for the preservation of health among the domesticated animals. The subject may be divided into two parts—Zoötherapeutics and Zoöhygienics.

"Zoötherapeutics (ζῶον, *zōon*, an animal; and θεραπεύ, *therapeuō*, I cure) treats not only of the material substances used in veterinary practice, as drugs or medicines properly so called, but also of all the immaterial or imponderable agents, as heat, light, and electricity, and all the mechanical and surgical remedies which the practitioner has occasion to call to his aid. It also includes Veterinary Pharmacy, which consists in the collection, preparation, preservation. and dispensation of veterinary drugs.

"Zoöhygienics (ζῶον, *zōon*, an animal; and ὑγιεινός, *hügieinos*, healthy) treats of all that affects the sanitary condition of animals. It includes dietetics, and inculcates the best modes of maintaining warmth, cleanliness, and efficient ventilation in the houses and sheds intended for the accommodation of stock.

"But as the full discussion of Veterinary Materia Medica, under these two divisions, would require a treatise far exceeding the limits of the present work, it is my intention to confine my observations solely to that branch of the first part of the subject which is sometimes styled Veterinary Pharmacology, or the description of the medicines or drugs used in the cure of disease among the domesticated animals.

"As, however, the different medicines thus used possess many actions in common, and are prepared by the same pharmaceutical processes, I purpose prefacing the consideration of individual medicines by a few remarks on the general actions of medicines, and on the more important operations of pharmacy. These subjects will be discussed in two sections.

"SECTION I.

"ON THE GENERAL ACTIONS AND USES OF MEDICINES.

"Every medicine is endowed with certain inherent characteristic actions, which distinguish it as decidedly as its physical and chemical properties. Thus, some medicines act on the bowels, causing purgation; others on the kidneys, stimulating the secretion of urine; and others on the brain and nervous system, causing insensibility; in fact, there is no part or organ of the body, except the spleen and pancreas, which is not influenced, and that often in several different ways, by some medicinal agent. It is impossible, however, to explain why a medicine should act in one way rather than in another; why, for example, aloes is purgative, and not diuretic, narcotic, or anæsthetic; or why chloroform is anæsthetic, and not vesicant, diuretic, or purgative. The student must therefore endeavour to conceive of these actions, or dynamical effects of medicines, in the same manner as he does of their more familiar properties of colour, odour, taste, or density.

"In order to facilitate the discussion of the general actions and uses of medicines, I shall divide this section into the following heads:—

"I. The manner in which medicines establish their actions.

"II. The manner in which medicines are believed to cure disease.

"The arrangement of medicines according to their physiological actions.

"The circumstances which modify the actions of medicines."

Skipping the consideration of the first of these topics, we shall proceed to transfer the second into our pages, for the double purpose of continuing to show the masterly manner in which our author handles his subject, and of giving the outline of *homœopathy* he has presented us with, together with his opinions on that questionable subject as applicable to animal medicine:

"About sixty years ago another method of cure was propounded by the German physician, Hahnemann, who taught that the cure of a disease is effected by the administration, in small doses, of such medicines as would, when given to a healthy subject in large quantity, induce the same disease. This is the doctrine of homœopathy (ὅμοιος, *homoios*, like or similar; and πάθος, *pathos*), the principles of which are enunciated in the aphorism, *similia similibus curantur*. According to this doctrine, cinchona cures ague and intermittents, because it produces such febrile symptoms when given to healthy individuals in considerable doses; aconite is the appropriate remedy for reducing inflammatory fever, because in large doses it produces that condition; and strychnia is the best remedy for palsy, because in large doses and in healthy subjects, it produces that disease. But this law of similars, as the homœopathists phrase it—a law on which the whole system is said to be founded—is unsupported by adequate facts and arguments, and is quite insufficient to account for the action of most remedies. Oil of turpentine destroys lumbrici and other intestinal worms; but no one will assert that it is capable of producing such parasites in what doses soever it may be given. Sulphur is notoriously one of the best remedies for removing lice and many skin diseases, but does not produce either. Arsenic, iodine, and belladonna,

are homœopathic remedies for thick wind; yet none of these, not even all of them together, produce thick wind. Aurum, arsenicum, bromine, and various other substances, are given in glanders, farcy, and consumption; yet none of these, nor indeed, any other medicine, is known to cause any such complaints. Even cinchona—one of the most favorite illustrations of the homœopathic anxiom, and that which first led Hahnemann to the discovery of the so-called universal and infallible law—does not cause, in the great majority of cases, any symptoms at all analogous to fever, and never produces the intermittent fever which characterises ague. Lemon juice cures but does not produce scurvy. Iodine removes glandular enlargements, but does not cause anything at all analogous to them. Aconite, when given in allopathic doses, reduces the pulse and counteracts inflammation, but fails entirely to cause plethora or inflammation in healthy individuals. Numerous other examples, equally pertinent, might be given, showing as clearly as possible, that the so-called facts, on which the whole system of homœopathy is based, are no facts at all. Any deductions or generalisations drawn from these facts must therefore, of course, be quite untenable. Were the doctrines of Hahnemann sound and true, all medicines which cause symptoms similar to any particular disease must, in certain small doses, be safe and effectual for curing that disease. But this is certainly not the case. Purgatives cause diarrhœa, but do not usually check it; diuretics cause diuresis and inflammation of the kidneys, but do not stop either; and in the same way it might be said that alcohol should cure intoxication because it causes it!

"If the principles or foundations of homœopathy be false and imperfect, as I have endeavoured to show, the superstructure based on such a foundation cannot be otherwise than weak and tottering. The following important facts and doctrines of homœopathy, exhibit more clearly than any arguments the extravagancies and inconsistencies of the system:—The homœopathic doses are so small that they are often undetectible either by the microscope or by chemical analysis, and are sometimes so inconceivably minute, that the mind can form no idea of them. It is admitted, even by homœopathists, that millions of such doses may be swallowed by a healthy individual without inconvenience, but in disease the system is believed to become so susceptible of their action, that much risk is incurred by their insufficient dilution. Medicines, such as charcoal, sand, and carbonate of lime, which, in ordinary doses of several scruples or drachms, have only a slight mechanical effect, when given in fractional parts of a grain, are thought to produce very powerful effects and cause many hundred symptoms. Charcoal, for example, is said, when given to a man in very minute doses, to produce 930 distinct symptoms; oyster shell, 1090 symptoms; and the ink of the cuttle-fish, 1242 symptoms. The extraordinary powers supposed to be conferred on these and other medicines, even when given in doses of inconceivable minuteness, are chiefly ascribed to the magic influence of careful and continued triturations and often repeated shakings, performed according to most precise directions. Little difference of activity is believed to exist between different dilutions of the same medicine; and it is said, that if the medicine be well selected, it matters little whether the tenth, hundredth, or thousandth of a grain be used. There is probably some truth in this observation; for, with most medicines, especially when administered to the lower animals, all the dilutions mentioned would be equally harmless. The admixture of different medicines with one another, is said to neutralise the effect of all; but, if this be the case, homœopathic drugs must always be without effect (which is very probable), for all medicines contain adulterations and impurities, which, though small in amount, must of course acquire great potency by the triturations above mentioned.

"But homœopathists assert that, in spite of the errors which their oppo-

nents discover in the system of practical medicine, it must ever be regarded as made up of two distinct parts:—1st, The original and peculiar part of the system, consisting in the use of medicines selected in accordance with a law embodied in the axiom *similia similibus curantur*, and administered in infinitesimal doses, usually varying from one grain to one millionth of a grain, and carefully prepared according to certain precise directions; and, 2d, Attention to diet and regimen—the only effectual and rational part of homœopathy—the true source of all its boasted cures—and that very department of medical treatment which has been insisted upon from the most ancient times by all scientific and successful practitioners, both of human and veterinary medicine. The value of the first part of the treatment, viz., of medicines given homœopathically, has never been satisfactorily shown, and never can be so, until two series of cases, as nearly as possible alike, be treated, the one in the usual homœopathic fashion, the other with the same attention to diet and regimen, but without the globules. If, in a sufficient number of well regulated experiments, the former method proves itself superior to the latter, then of course it would be fair to infer that the medicine had some real curative effect. But no such superiority had been observed where impartial observations have been made. In a few experiments made at the Edinburgh Veterinary College, as to the treatment of pleuro-pneumonia and other diseases according to these two modes of cure, it appeared, that those cases which were treated by diet and regimen alone, were as speedily and effectually cured as those treated with the globules in addition, so long as these globules were given in homœopathic doses. I say, so long as the doses given were homœopathic; and this, I think, is an important fact; for many of the medicines, which are used homœopathically, are, in ordinary medicinal doses, capable of producing prompt and often powerful effects, and become effectual means of cure, in virtue of their physiological properties, but not in virtue of any homœopathic action.

"But though the principles of homœopathy are unsound, and though its practice among the lower animals has not been more successful than that of many more modest modes of treatment, still it has done some service to the cause of practical medicine, by showing more forcibly than before the great power of the *vis medicatrix naturæ*, and the inestimable importance of regimen and diet as auxiliaries to the medical treatment of disease. Further, it has aided in the advancement of a more rational system of veterinary practice, by discountenancing those copious and repeated bleedings, and large and reiterated physickings, which were often indiscriminately prescribed for all patients; and it has also acted beneficially in elucidating various subjects connected with therapeutics, and in inducing the opponents, as well as the supporters of homœopathy, to institute numerous and careful observations on the actions of remedies both on man and the lower animals."

Having with this lengthened extract concluded what we have to remark on the introductory section of the work, we now come to "the consideration of the medicines used in veterinary practice." The different articles of the Materia Medica included therein are treated of in alphabetical order; the properties of the more "remarkable and important" of which, and such as are particularly attended to, being, "Its name, history, and sources—its preparation—its chemical

and physical properties—its impurities, and the mode of detecting them—its general action on the various domesticated animals in health and disease—its uses, doses, and the most suitable mode of administration or application."

Mr. Dun, has, in his preface, (p. vii) specified what we shall find *original* matter in this section of his book; and to prevent the rise of any mis-apprehension touching their "originality," we shall select the articles named by him as such in preference to any other for extract; viz. those on "aconite and tartar emetic:"

"Among carnivorous animals a violent and speedy effect is readily produced by aconite, as well shown in the two following experiments made at the Veterinary College in October, 1852. A cat of average size got ℥vii of Fleming's tincture of aconite. In two minutes severe retching came on, and in five minutes painful vomiting and involuntary muscular contractions of a most active kind, with perverted action of the voluntary muscles, causing the animal to leap up the wall and turn somersaults backwards. The vomiting and muscular action continued till within two or three minutes of death, which took place twenty minutes after the administration of the poison. No morbid or peculiar post-mortem appearances were observable.

"An ordinary sized Scotch terrier got ʒss of Fleming's tincture. In five minutes painful and active vomiting came on, which must have effectually emptied the stomach. The retching and vomiting continued, however, for half an hour, when the animal was so exhausted and paralysed in its hinder extremities as to be unable to walk except by supporting itself on its fore limbs, and dragging the hind ones after it. It gradually recovered, however, in about two hours. In some other cases a drachm has destroyed dogs with as much rapidity as an equal quantity of prussic acid. Among ruminating animals, the action of aconite, when introduced into the stomach, is less prompt and powerful than in other animals, and Dr. Fleming found that the activity of aconite was sensibly diminished by digesting it with the gastric secretions either of rabbits or calves.* When, however, it is injected into the veins, or placed underneath the cellular tissue in these animals, it develops its poisonous effects as readily as in other animals, and with the same marked depression of the action of the heart.

"According to the dose in which it is given, aconite appears to destroy life in one of these three ways:—1st. In a very large amount it sometimes kills by communicating a sudden shock, possibly somewhat in the same manner as a blow on the stomach, or a flash of lightning; 2d. It paralyses the muscles of respiration; and, 3d. It paralyses the action of the heart. In most cases death results from the concurrence of the two latter effects.

"In poisoning by aconite, emetics or the stomach pump must be promptly used to get rid of any of the poison that may still remain unabsorbed. For a similar reason cathartics are also useful. The only chemical antidote of any value is tannic acid, which owes its efficacy to its forming an insoluble

* See Dr. Fleming's admirable monograph on the physiological and medicinal properties of *Aconitum Napellus*.

compound with the aconita; but to be of any service it must be used promptly. Endeavours must be made to ward off the mortally sedative effects of the drug by the use of diffusible stimulants; and it may be recollected that congestion of the lungs, which is often the immediate cause of death, may be much relieved by bleeding from the jugular.

"Aconite is a most prompt and effectual sedative and antiphlogistic in febrile attacks and acute local inflammations. In these cases it speedily moderates the action of the heart, and hence reduces the quantity of arterial blood which passes in a given time to any part. It thus acts much in the same way as bloodletting, but, besides being safer and more manageable, it is less apt to induce such extensive and continued depression of the vital energies. Aconite somewhat resembles opium in its sedative effects, and in its relieving pain and spasm; but acts less prominently on the brain, and more decidedly on the sympathetic or organic system of nerves; while its sedative action is not preceded by any obvious excitation. Though somewhat like digitalis, it differs from it in being anodyne and antispasmodic, whilst its sedative action is induced more speedily and certainly, and without any risk of cumulative effect.

"Mr. Balfour, V.S., Kirkcaldy, has employed aconite for upwards of three years, and informs me that he finds it the most certain and successful sedative he has ever used. He has found it most useful in pneumonia, pleurisy, and bronchitis, both in horses and cattle, in many cases of influenza, and also in weed. It has been successfully employed at the Edinburgh Veterinary College, by Mr. Balfour, V.S., and by many other private practitioners, both in England and Scotland, for the cure of pleuropneumonia among cattle. In such cases, especially when of an acutely inflammatory type, it is far more effectual than tartar emetic, calomel, and opium, or any other sedative; and, when given sufficiently often, is quite equal to bloodletting in its power of reducing the pulse, relieving the respiration, and removing fever; while it is greatly preferable to it, inasmuch as it reduces the inflammation without leaving any weakness or tendency to typhoid fever. In rheumatism it usually relieves both the constitutional fever and the local inflammation, and is believed to prevent the malady from extending to the heart and its membranes. Moiroud and others speak highly of its utility in obstinate dropsies, and Stahl of its value in the removal of worms; but its efficacy in such cases is doubtful. From its action on the superficial sensory nerves, it is often useful as a local anodyne in neuralgic or rheumatic affections, painful wounds, or swellings of a chronic and non-inflammatory kind; and in such cases not only allays pain, like opium, but also often removes its cause. Its uses, both as an internal and an external remedy, are capable of being greatly extended.

"*Doses, &c.*—Aconite is not usually employed in the crude state either of root or leaves. The extract, unless very carefully prepared from an alcoholic solution, or from the expressed juice, is apt to be of defective or irregular strength. The tincture is the simplest and best preparation. Professor Fleming directs it to be thus prepared:—

"'Take of root of aconitum napellus, carefully dried and finely powdered, sixteen ounces troy; rectified spirit, sixteen fluid ounces; macerate for four days; then pack into a percolator, add rectified spirit until twenty-four ounces of tincture are obtained. It is beautifully transparent, of the colour of sherry wine, and the taste is slightly bitter.'

"The dose of the tincture for horses is about ℥x; for cattle, from ℥x to ℥xx; and for dogs, from ℥j to ℥ij. It should be given in diluted spirit, at least every second hour."

"*Actions and its uses.*—The action of tartar emetic differs much in the different domesticated animals. Dogs, pigs, and men, are greatly more

susceptible of its various actions than horses or cattle, which resist entirely its emetic action, and are brought under its irritant and cathartic effects only by the administration of doses of three or four ounces given in solution. Quantities of from one to eight drachms seldom have much effect on horses, even when given repeatedly. They do not, at least for a considerable time, induce nausea; they improve rather than injure the appetite; they neither augment nor diminish the evacuations, and disturb neither the circulation nor the respiration. These statements, though somewhat at variance with the generally received opinion, and with the results of various experiments made at Alfort, and reported in the *Veterinarian* for 1847, pp. 152-166, are fully borne out by a number of experiments lately made at the Edinburgh Veterinary College, by Mr. Barlow and myself. As these experiments are as yet unpublished, it may be as well to notice one or two of them somewhat in detail."

For the "cases" here narrated we have not room; we therefore proceed at once to the conclusions drawn from them:

"These cases, with several others of a similar kind which might also have been adduced, clearly show that single doses of tartar emetic sufficient, if retained in the stomach, to destroy from thirty to forty men or as many dogs, may be given to horses with impunity; that doses of from one to eight drachms may be administered to them in the solid form for days, or even weeks, without producing any very obvious physiological effects; and that doses of several drachms, even when given in the form of solution, in which the medicine is certainly far more active, fail to produce any marked depression of the action of the heart, or any diminution in the force and frequency of the respirations.

"Cattle, like horses, can take very large doses of tartar emetic without suffering from any of the physiological actions of the drug. Hertwig and Viborg gave quantities varying from two to ten drachms, and Gilbert gave ten drachms in solution—all without effect.—(Hertwig's Arzneimittellehre.) We have repeatedly administered an ounce twice a day to cattle affected by pleuro-pneumonia, and, except in a few cases where purgation occurred, have watched in vain for any evidence of its action. Mr. Balfour, V.S., Kirkcaldy, informs me, that he has given half a pound in solution without any very obvious effects. By doses proportionate to their size, sheep are acted on much in the same way as cattle. Viborg gave one drachm, and Gibert three drachms in solution, and four in the solid state, without effect. (Hertwig.) But the latter found that four drachms destroyed a one-year-old sheep.

"The effects of tartar emetic on dogs are much the same as on man. Doses varying from six grains to half an ounce are speedily expelled by vomiting, if the animals be left to themselves; but if the gullet be tied so as to prevent vomiting, such doses cause nausea, accelerated and difficult respiration, fluid dejections, intestinal irritation, and death in a few hours. Hertwig mentions that it is not so active in pigs as is generally believed; that from ten to twenty grains cause nausea and vomiting, but act neither very rapidly nor very certainly; that one drachm in solution given to a boar nine months old, caused vomiting, dulness, and uneasiness, which continued for three days; and that two drachms given to a similar animal, killed it within twenty-four hours.

"Tartar emetic has much the same effect when placed in the cellular

tissue, or injected into the veins, as when given in the usual way. In any case it becomes speedily absorbed. It has been detected in the blood and in the most soft tissues, especially in the liver and kidneys, from the latter of which it is chiefly excreted. (Orfila.)

"The therapeutic applications of tartar emetic are very numerous. It is generally considered a most valuable antiphlogistic for horses and cattle, and is especially prescribed in febrile complaints, pneumonia, pleurisy, bronchitis, and most local inflammations, except those of the alimentary canal. In all such cases it is said to be very effectual, especially when the more acute symptoms are partially subdued by bleeding. But many of the most eminent veterinary practitioners, both in England and Scotland, have now entirely abandoned the use of tartar emetic for such cases amongst horses and cattle, and rightly consider it perfectly useless. Indeed, the only evidence in favour of its possessing any curative action in such circumstances is derivable from cases in which it has been used in conjunction with medicinal and hygienic remedies, which are in themselves most effectual means of cure. Apart, however, from practical experience, it appears highly improbable that tartar emetic should have any active therapeutic effect either in horses or cattle, since in these animals it is, as already mentioned, altogether devoid of physiological action. Many regard tartar emetic as a useful vermifuge, and give it for this purpose to horses, along with epsom salts or other purgatives. The mixture is really sometimes effectual, not, however, from any special anthelmintic action, but from the smart purgation which tartar emetic always induces when given along with a cathartic.

"Among dogs, cats, and pigs, tartarized antimony is very useful as a nauseating emetic; and is advantageously used in most febrile and inflammatory complaints, relieving engorgement of the stomach and intestines, depressing the action of the heart, and causing a copious secretion from most of the mucous surfaces. It does not operate so speedily as sulphate of zinc or of copper, but is preferable to these in febrile cases, since its emetic action is of longer duration, and accompanied by a greater amount of nausea. On these accounts, however, it is less suitable for simply emptying the stomach of food or poisons.

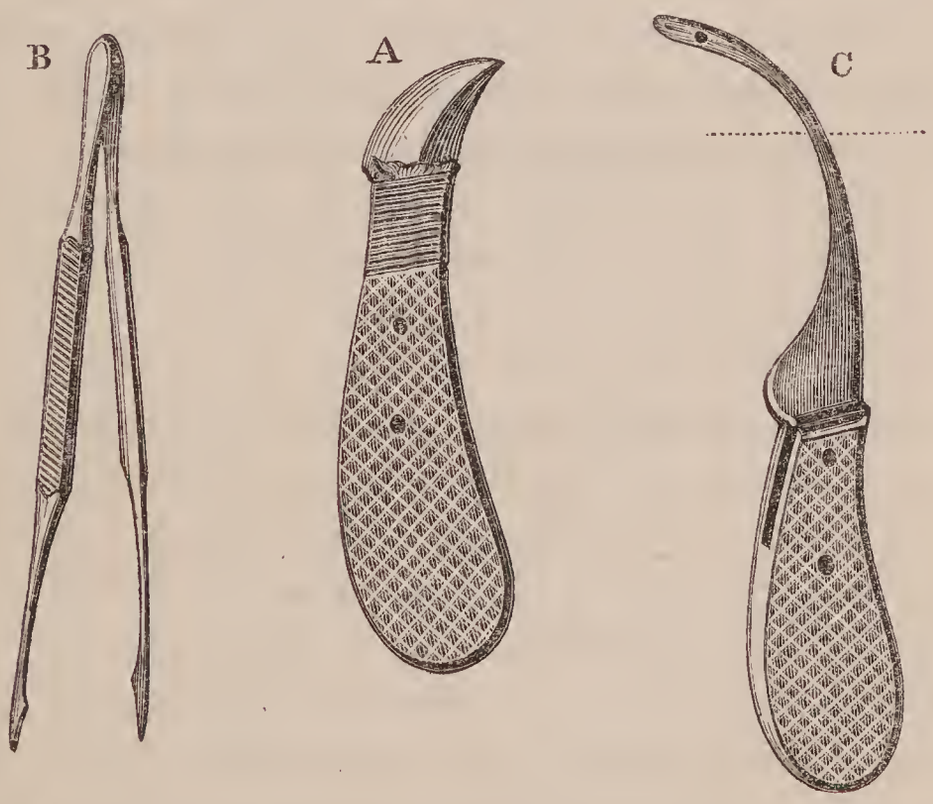
"When rubbed into the skin, tartar emetic causes much irritation, inflammation, and swelling, with an eruption of minute crowded vesicles, which soon become converted into pustules. Unlike cantharides, it has no tendency to act on the kidneys; but is occasionally absorbed, and produces in dogs the same effects as follow its administration by the mouth. Unless used with considerable caution, it is apt to induce deep-seated inflammation, sloughing, and blemishing; and is consequently little employed in this way, either for horses or dogs. For cattle, however, it is a useful counter-irritant, being chiefly applied in chest diseases, and chronic rheumatism of the joints.

Doses, &c.—The usual dose for horses or cattle is ʒi to ʒiv, administered three or four times a day, either in bolus or solution. As an emetic for dogs or cats the dose varies from gr. i to grs. iv. It may be given in a bolus or rolled up in a bit of meat, but is most effectual in solution. In quantities insufficient to produce vomiting, as in doses of one grain or less, it is used in these carnivora for inducing nausea in inflammatory and febrile complaints. For similar purposes in horses and cattle, the dose is generally united with several drachms of nitre; two or three scruples of calomel; a few ounces of salts; or a few drachms of aloes—the last mixture being with some practitioners a favorite purgative in cases of acute febrile complaints. One to two grains, with about the same quantity of calomel, is often given to dogs to arrest inflammation. Such a mixture causes vomiting, and subsequently purgation, accompanied by much depression. Tartar emetic is used externally

as a counter-irritant in the form either of solution or ointment, which latter is usually made with one part of tartar emetic and four of lard, and is sometimes added to ordinary blistering ointments to increase their activity."

These full extracts will amply lay open the character, *veterinary* at least, of the work we have now in hand. We think they will quite bear us out in the praise we have allotted to it. At the same time, we may observe, after having perused this latter or veterinary section of it, that it is one which by no means comprises the matters standing on record in close relation to it: there being several authorities, not Scotch, which Mr. Dun has not even named. A manifest leaning—as is natural, perhaps—has been made to *home* authority. We find no fault with this; only we should like to have seen a *leettle* more of the other side of the question.

INSTRUMENTS FOR NEUROTOMY.



Above are represented (exactly half their length) three instruments, invented by Mr. Gowing, veterinary surgeon, Camden Town, whose genius for mechanical invention is not unknown. They are intended for the neurotomist's use, in the performance of an operation which, through ill report

and good report, has at length settled down, in reputation, into what, from the first, was prognosticated of it, viz., to become a dernier remedy in certain cases wherein all hope of cure, or even relief, has fled; notwithstanding the animal's age and constitution be yet unimpaired, and such as to render it highly desirable that his lameness be, if possible, removed. Percivall's last words on the operation, and they were his *first* foretelling on the subject as well, run as follow:

"I dare prophesy that neurotomy will be known as long as the veterinary art. It has hitherto stood the test of this capricious age, and weathered out the storm of discordant opinion; it has ranked high in the estimation of its enthusiastic admirers; it has fallen into discredit and comparative dread with those who have misapplied it: its reputation has now but to rise to a certain point in the scale of veterinary surgery where it will remain, despite of all future controversy."*

The three instruments we are about to examine are contained in a small compact case, measuring 5 by 2½ inches (altogether not larger than a thin 12mo volume), and consequently of convenient size for the pocket. The knife (fig. A,) is so constructed that it may be used either as a scalpel or a lancet, or even as a bistoury; thereby possessing qualities for performing all that the operator can require, whether it be incision through the skin, dilation of the wound, or subsequent dissection of cellular envelope, and separation and isolation of the nerve preparatory to division. In which latter part of the business the FORCEPS will come into play: there being no necessity for either scissors, or, in fact, any other instrument. And when a man is master of his work, and is adept in the use of his instruments, such varied adaptation of one instrument will be found, in an operation like neurotomy (which calls for off-handiness and celerity) of great convenience to the operator. The curved shape given to the knife, adapts it nicely to the clutch of the thumb and fore finger, and to its recline upon the middle finger, lying in which position, it is ready for immediate action, either in cutting downward and ripping upward, and thus becomes "the pen of a ready writer."

THE FORCEPS (fig. B,) with their tapering points and

* Hippopathology, vol. iv, p. 198-199.

broad and roughened shoulders, are admirably adapted for fine or delicate work, while their bite is quite as firm and secure as though they were of the ordinary bulky construction. From the extent of their gripe at the points, they hold even far and firm enough to be used effectually (should they be required for such a purpose) even as *torsion* forceps, while they shut up in such narrow dimensions in the case as to take up the smallest possible proportion of space.

The third instrument (fig. c,) which we may call THE TENACULUM, is difficult of representation, inasmuch as, though quite simple in its make, it is one which answers three or four very important purposes in the operation of neurotomy. Providing the nerve be laid bare by the first incision through the skin (which, by an expert operator, it will be), nothing will remain to be done save to introduce, between it and the artery, the round blunt point of the tenaculum, which, being ascertained to have been properly and rightly directed, will have to be carried onward to a certain distance (marked in the fig. by a dotted line), until, the perforation through, the point of the instrument has become visible on the opposite side of the nerve; but, not beyond this point, lest the nerve be brought in contact with the *cutting* or broad portion of the blade of the tenaculum. This, the concluding step of the operation, is now effected by a sudden advance of the tenaculum underneath the nerve, this being all that is required for its section: thus, not only superseding the need of either scissors or bistoury, but saving the time generally of necessity consumed in the operation, in making use of additional instruments. Also offering, should there be occasion for it, a hole, through which the operator may insinuate a ligature of thread or silk of any sort under the nerve, wherewith to draw it out of its place or to tie it; which he may find it convenient to do, when at the time he comes to excise the requisite portion of the *inferior* or senseless portion of it.

Any information that may be desired on the subject of "neurotomy," may be found in the fourth volume of Percivall's 'Hippopathology.' Meanwhile, our readers will perceive, by

the above description, that the instruments before us are, to the neurotomist, portable and useful to a degree he can entertain little conception of before he has actually seen and used them. Mr. Gowing has commissioned Mr. Brennand (late Long), the veterinary instrument maker, at 217, High Holborn, to make them, where they are to be found such as we have depictured them.

Foreign Department.

RESEARCHES AND DISCUSSIONS ON THE SPAYING OR CASTRATION OF COWS.

By M. Pierre Charlier, V.S., at Reims.

As our population increases, and new wants arise, we become sensible of the necessity of augmenting and ameliorating the products of the earth, especially those serving for the alimentation of man, such as are immediately required to support his health and strength, and which demand the attention of government and every true friend of humanity. Thus it is that the spaying of cows becomes at the present day, as Professor Bouley says, the creation of a new race, sterile for breeding, but productive and valuable, for the purposes of yielding milk for the dairy, and meat for the butcher.

Spaying of cows at a certain period of their life, offers immense advantages to the agriculturist and consumer, in producing much augmentation of milk and meat, without any increase of kind arising; in this way, the animal escapes a host of ailments, and spares a host of losses sustained in consequence of her bulling at times when it is either inconvenient or impossible to gratify her desires.

Formerly, such an operation, successful for a time at first, was subsequently followed by sad reverses, in consequence of which it was once again abandoned. It evidently became, for the purpose of bringing it into favour, absolutely necessary that means should be devised to render the operation of spaying less dangerous. This it has been my object to effect.

At first I resolved on important modifications in the proceeding recommended by Levrat. I essayed *torsion* restricted to the rupture of the Fallopian tubes, instead of tearing out the ovaries. In this way, I avoided the hemorrhage which

had proved the cause of death; but this effect, for want of instruments, was not invariable, and as the wound in the flank was, in fact, a Cæsarian operation, it was apt to give rise to hernia, and to be attended with all its dangers.

Relinquishing this method, I determined to seek for the ovary through the natural channels. I had already felt it one day, while examining a cow to test her being in calf, in which I had made two lacerations through the root of the vagina, which, although they readily healed up, I afterwards thought ought to be made by simple incision; but the difficulty attendant on the introduction of any cutting instrument into an organ I knew to be mobile and elastic, and provided, in certain parts, with numerous large vessels, and to be surrounded by other highly important organs, with the want of fit instruments for the purpose, made me recoil from this likewise. In this predicament, I found myself left either with the choice still to persevere and perhaps in the end to succeed, or to abandon the affair altogether.

After much reflection, much lucubration, many experiments in slaughter-houses, and on my own cows, many trials of all descriptions, many sacrifices, instruments of all kinds, I at length succeeded in rendering castration of the bovine female simple, facile, painless for the animal, and certain of success, unless in a case wherein either the subject, or the part operated on, were in a state of disease at the time, or unless through some unforeseen occurrence, as has been shown by upwards of 200 operations which have been performed without any reverse.

This it is that forms the foundation of the new work I have had the honour of submitting to the Academy of Sciences; a work divided into three parts: the first part showing that spaying has the effect both of augmenting the return of milk and aptitude to fatten; the second, its effect on the health of milch cows; the third, treating of the manner of operating, with such modifications as I conceive ought to be entertained; terminating with some reflections on the spaying of cows that have had calves, and of heifers.

Chap. I.—*Advantages of Spaying to Agricultural and Industrial Economy.*

Two questions here meet our view: one is,—Does the operation give rise to an augmented supply of milk? The other, does it favour the fattening of the beast?

First. Let us inquire into the usual management of milch cows by cowkeepers and farmers, and others who keep them

for the purpose of milking. Two methods are pursued by them: the first consists in keeping the cows for several years, and producing fat calves every eleven or twelve months; the second, in keeping the cows for their milk solely, without ever desiring any reproduction. The former custom of keeping cows to breed every year, is now for the most part abandoned, in consequence of the inconvenience it puts them to, and of the losses sustained by it: the cow remaining, perhaps, many months dry, or giving but little milk during the latter months of gestation. Such fluctuation in the supply of milk, such short-coming in the annual income, added to the necessity of keeping a third or a half more number of cows in order to meet the demand for milk—privations like these felt by the small farmer and vineyard-keeper having but one or two cows, occasion their being months in the year without milk, or butter or cheese either.

A small dairy such as this, notwithstanding it has but a few cows, is forced to keep a bull, which yields no other profit save its dung, and is sold at a loss when wanted to be got rid of. When one has no bull of one's own, there may be none within reach, or within a long way off; and during the bulling season it may be impossible to get the cows to him, on account of the weather, or that one has nobody at hand to take them. In this predicament, the bulling may pass off. The cow may fail to conceive, although experiencing, more than ever, desire for copulation. Moreover, cows which are bulling who have not been in the habit of going out, become intractable: often they break their halters, make their escape, and come to harm, or injure or even kill persons. The proprietor of the bull, not being forewarned, it may happen that after two or three leaps the animal fails in the act, the effect of which is rather to excite sexual desire than to calm it, such as happens when he is a bad calf getter. Or the bull may prove too large for the cow, or beget a calf too large for parturition. Or the bull may be unwell. Or, as happens not unfrequently, the journey to the bull is postponed from day to day, until the cow loses all desire; or this may be done purposely to prolong her duration of yielding milk.

Rich food, and plenty of it, which is given to the cow to force her milk, is apt to engender disease, besides creating in her a desire for copulation. And as an inflamed surface refuses generally to absorb the substances applied to it, sur-excitation of the vagina, uterus, Fallopian tubes, and ovaries, will, in like manner, be liable to continue to the failure of impregnation taking place, from lack of absorption of the fecundating fluid. Should the cow become with calf, then has the animal to

encounter all the accidents and diseases attendant on gestation and parturition, &c.

1. The operation prolongs the milking period, and augments the *annual return* from such production.

In order to prove this assertion, I may repeat what has been before stated by my predecessors, based upon a series of facts whose authenticity is guaranteed; and afterwards, I may cite such facts as have occurred under my own cognizance, based upon certificates of cowkeepers, with the legalisation of administrative authority; and, lastly, I may establish comparisons between the products of cows not castrated and cows that have undergone the operation.

From M. Levrat, of Lausanne, we learn that spayed cows yield *annually*, for the first two or three years, *from a fourth to a third* more milk than they were in the habit of giving before the performance of the operation. And further trials convince M. Levrat, that the increase cannot be estimated at less than one third of the annual amount.

M. Regire, of Bourdeaux, asserts, that in five cases he experimented on, the cows yielded at least *double* the quantity they did before the operation.

And lastly, M. Morin, veterinarian at the National Depôt of Langouet, asserts that a cow spayed thirty or forty days after calving, or at the time that she is giving most milk, continues to yield, if not for the remainder of her life at least for many years, the same large quantity of milk, and sometimes more than she gave at the moment of performance of the operation.

M. Roche-Lubin is the only person opposed to this latter opinion. M. Prangé has shown, by his experiments, that there was no reason for him to repose on the authority of Roche-Lubin, since they themselves had proved to him the uncertainty of castration having the effect of maintaining the congenital natural supply of milk, his own trials having varied in their results in this respect; nevertheless, they have shown *an increase in the annual amount.* It appears of consequence that the operation of spaying should be performed at a proximate and proper time after calving.—*Recueil de Méd. Vét. de Janvier*, 1854.

[*To be concluded in another Number.*]

Home Department.

AWARD OF THE PRIZE MEDAL, AT THE ROYAL VETERINARY COLLEGE.

At a meeting of the Council of the Veterinary Medical Association, held at the Royal Veterinary College, on the 9th of January last, it was unanimously agreed that the "Prize Medal" should be awarded to Mr. George Poyer M.R.C.V.S., Ashbourne, Derby, for his essay upon the subject put forward for competition, viz.: "The causes, symptoms and pathological conditions of the nasal, laryngeal, and tracheal passages, which give rise to roaring, whistling, and other abnormal sounds in the respiration of the horse, with the means of diagnosing the same."

A NEW DISEASE IN CATTLE.

The stock farmer appears likely to have a new enemy to contend with in the shape of a disease which, although not of the precise nature of the one known as pleuro-pneumonia, is yet in its fatal results quite as much to be dreaded. The disease we allude to is centred in the lungs and air passages, the throat being in some instances inflamed.

Professor Simonds, the Veterinary Inspector of the Royal Agricultural Society, has reported upon the disease as he found it existing in a herd of bullocks at Goodwood, belonging to His Grace the Duke of Richmond. Of forty beasts which the herd originally numbered, twenty-four only remained; sixteen having died from the effects of the disease. The animals were all of the Highland breed, and were purchased at Barnet fair, on the 4th of September last.

In all the examination which were made of the dead bullocks, the lungs were found to be very seriously affected; in some cases they appear to have become indurated: water, however, appears to have been the prevailing cause of death, as in all the examined cases, large quanties of water were found on the chest. Water on the chest is, however, hardly to be called the cause of death in these cases. The progress of the disease was too rapid, as it appears to us, to lead to the conclusion that water formed in these animals was the cause

of death, however large the quantity may, in some instances, have been. We believe that in the human frame, as well as in the animal, water in the chest may prevail without death ensuing rapidly; at least, our experience goes to show that in many disorders which have been pronounced to proceed from that disease, life has been prolonged for some time.

In the report Professor Simonds has made to the council of the Royal Agricultural Society, he has not gone elaborately into a diagnosis of this complaint; we are left, therefore, very much to conjecture into its cause and nature; it may be that this particular herd had been exposed in some way on its progress southward, to exciting or predisposing causes, from which they peculiarly have suffered, and that what has happened in this instance may not happen again; it may be, as we feared at the onset, that this is really a new form of disease, dangerous from its results, and likely to baffle veterinarian skill, as pleuro-pneumonia has hitherto done. We trust, however, that the former is the true reading of the extraordinary symptoms which these cases disclosed. Happening, as they did at Goodwood, every care and attention was sure to be bestowed upon them, and the public is now at once made acquainted with the results. It is to be regretted, however, that Professor Simonds did not give more attention to the pathology of them than by his report he appears to have done. We cannot arrive at the conclusion that that report is satisfactory—especially called on by a body like the Council of the Royal Agricultural Society to visit and report upon a disease of this kind, we think, a much more close investigation should have taken a place, which ought to have been embodied in a report creditable alike to its author and the distinguished body to which it was addressed.

We repeat our trust that this disease may not prove any thing more than one of those complaints brought on by individual causes, if we may so express ourselves, and which will not take an endemic or even an epidemic form amongst us. The calamity might have happened in a less celebrated locality than that of Goodwood, and the public have never heard about it; as it is, we are warned in time, and we hope the warning will not be lost upon us, but that any symptoms of a disease so fatal in effects, will be duly reported by our intelligent veterinarians, and every means taken by them to trace the dire effects to their cause, and to supply a prompt and efficient remedy.—*Farmers' Herald; March*, 1854.

THE AORTA OF THE ELEPHANT: ITS NON-MUSCULARITY, AND THE INELASTIC NATURE OF THE CELLULAR COAT.

Dr. Crisp, at the Physiological Society, exhibited the aorta of a large elephant, which he had recently dissected, with a sketch at the heart, of its natural size. The aortæ of the zebra, tapir, capylarra, giraffe, Rocky-Mountain deer, lion, tiger, grisly bear, and Tasmanian wolf, were also shown, by way of contrast. The diameter of the vessel was four inches, including its walls; these were eight lines in width. The inner coats were too much decomposed to admit of a careful microscopic examination. The cellular coat was tough and *inelastic*, as in man, and in all the animals the author had examined. The middle coat (so called) presented to the eye a surface of an uniform character; no appearance of muscular fibers, as described by Hunter and others, were present, and, when examined under a power of forty diameters, no difference was observed in any of the fibres; under a power of 250 diameters the yellow elastic tissue alone was seen, and no trace of muscular striæ were visible. Dr. Crisp thought a better evidence of the non-muscularity of this and other large arteries was the physical test which he had pointed out several years ago. If portions of the so-called muscular coat of an artery are extended, they will be found to be highly elastic, but this property is not evident in *inorganic* muscular fibre. A question, however, of more practical importance was the non-elasticity of the cellular coat, which the author took the credit of being the first to demonstrate. Mr. Guthrie, in all his works, described this coat (the cellular) "as especially elastic and retractile," and the late Mr. B. Cooper, in his Surgical Lectures, (*Medical Gazette*, 1849, p. 881,) speaks of it as the "cellular or elastic coat." If experiments are made upon dead arteries, the *non*-elasticity of that coat is readily shown, and it is owing to this property that the bleeding from torn arteries is chiefly arrested. The non-elastic cellular coat forms a funnel-shaped elongation, whilst the yellow coat of the artery, from its great amount of elasticity, retracts within it.—*Lancet*, 18 *Feb.* 1854.

EXPERIMENTS ON THE USE OF COD-LIVER OIL IN FATTENING ANIMALS.

Dr. Pollock communicates the following article to the 'Lancet:'—

"In the course of a careful observation of the effects of cod-liver oil, it occurred to me that experiments might with great advantage be performed, both on the healthy human subject and on cattle, with a view to ascertaining its positive powers of fattening, when the assimilating functions are in a normal condition. With the use of this agent in arresting the progress of chronic disease we are becoming daily more familiar, and have already run into an extreme which might have been anticipated, in expecting extravagant results and an universality of application which we have not as yet discovered to be the property of any remedy which we possess. It were likely to prove a corrective to these extremes were we to study with minute care and observation the physiological effects of our favorite drug, and rather to permit our theories explanatory of its action to take their rise from experiments, than to develop themselves from the chemical composition of the oil, which contains ingredients sufficiently numerous to puzzle the most ingenious chemist in his attempts to apportion to each its effects on the animal economy.

"The points to be ascertained with precision seem to me to be—first, whether the deposition of fat in healthy animals can be increased by the administration of cod-liver oil: and, secondly, the limits within which its action is manifested,—a consideration which includes defining the quantity, which, when taken, is assimilated into healthy fat, and in excess of which disease is generated.

"Leaving the more general and highly interesting questions regarding the bearing of these points on disease for future observations, I will shortly state what little practical information I can offer towards an elucidation of these questions.

"About two years ago, when on a visit to an intelligent friend residing on his own farm in Essex, and whose attention has been actively directed to the practical application of science to agriculture, it occurred to me to suggest to him the use of cod-liver oil in fattening cattle, stating my belief that it might be possible to obtain by its administration a decided saving in the cost of feeding. I proposed that he should separate off such of his stock as were to be the subjects of

experiment, and that the weight of the animals, the price obtained, and the outlay for food, should be carefully noted in comparison with others fed in the ordinary manner. The variety of my friend's occupations prevented his giving to my plan the minute attention which could have been desired, and the results of which I had hoped before this to publish; but the following letter from him contains matter of much interest, and, if I mistake not, foundation for future experiment and investigation:

"'You asked me to write you some particulars of my experiments upon fattening animals with cod oil. I will not attempt to give you any very minute details, but will endeavour to place before you a general view of what we have done, and as last winter I carried my plans out more fully than the preceding one, I will particularly speak of my operations at that time. And first of pigs. I kept upon an average three hundred, and killed from twenty to thirty per week, mostly porkers, from five to fifteen stone weight. The experiments were made by dividing off twenty pigs, and weighing each lot, keeping the meal separate, giving one lot two ounces of oil per diem, and both as much meal as they liked. I found the pigs taking the oil ate less meal, weighed the heaviest, and made the most money per stone in the London market, the fat being firm and white. Subsequently I have found that for small pigs one ounce of oil will do better. To larger pigs I have given a quarter of a pint per diem, and to small pigs also, but I have always found I lost money and credit for good pork when the larger quantity was given, and when killed the fat was yellow, and the flesh tasted fishy. From the weekly examination of so many pigs, I have concluded that the oil in no case cured a pig troubled with lung disease, but that when given in small quantities it was profitable, as the animal fatted upon a less amount of food, the oil tending to produce fat quickly. My experiments have led me to conclude that if given in a quantity which cannot be digested, it is then passed over the system in the shape of bile, so as to cause the yellow appearance in the fat. The farmer in such a case would lose money, as my man did for me, believing that if so small a quantity were good, more would be better.

"'The result with sheep has been more satisfactory; with one ounce per day the fat has been beautifully white, and the flesh has been compared to short-cake, being light and easy of digestion. The lot of eighty gave general satisfaction to the consumers; but the butchers complained of

lighter weight than the healthy, well-to-do appearance of the sheep led them to expect.

"'As regards bullocks. Last year ten short horns took each from a quarter of a pint to three quarters of a pint daily, and paid better than any other bullocks; these were sold for London. The opinion of all who saw them was, that it was impossible for any beasts to go on so well as they did in the usual way with so little food. They commenced with the quarter pint, and ended with three-quarters. I fancied, on the whole, that they did better on half a pint each per diem. I purchased for an experiment this year eight Herefords, even or regular beasts. They are divided into two lots, one of which has a quarter of a pint of oil daily, and all live alike.

"'The bullocks have the oil mixed up with meal and chaff; the pigs with dry meal; the sheep have split beans soaked in oil. The commonest cod oil costs from 2*s.* 8*d.* to 3*s.* per gallon. I have tried sperm oil against the cod oil, and prefer the latter. I should add that this year I only use an ounce for sheep and pigs, and four ounces per day for each bullock. The relief to a broken-winded horse from the administration of cod oil is very soon perceptible. I shall be most happy at any time to write to you further upon the subject.

'Believe me yours faithfully,

'A. W.'

"1. It will be observed that in the above experiments on pigs, bullocks, and sheep, a greater degree of fattening was obtained from a less amount of food when cod oil was used.

"2. That in all the animals there seemed to be a decided limit to the quantity which could be digested; that for pigs being two ounces, the smaller thriving best on one ounce, and the larger hogs being over-fed on four ounces per diem. Sheep took an ounce, and bullocks a quarter to three-quarters of a pint, and "*paid better than any other bullocks;*" but in all these cases a much larger quantity was tried experimentally, and it invariably disagreed, producing derangement of digestion, and "causing a yellow appearance of the fat and a fishy taste." This was remarked by the butcher who purchased the animals, and who, at my request, was not informed of the peculiar mode of fattening which was adopted. Whether the above experiments may induce farmers to adopt cod oil as a judicious article of food, more efficacious and cheaper for fattening their stock than those

ordinarily used, I will not presume to decide; but I offer the foregoing results to the profession, persuaded of their importance and interest in studying the application and physiological action of oils on the animal system."

Lancet, Nov. 5, 1853.

DIGESTION.

Influence of the Pneumogastric Nerves on Digestion.—Bidder and Schmidt have instituted a series of experiments (four in number) to determine the influence of the pneumogastric nerves on digestion, two of which were performed on dogs in whom gastric fistulæ had been formed. They found that —1. Section of the vagi did not diminish the sensation of hunger, and increase that of thirst. *The œsophagus being paralysed, however, in its lower part, by the section of the vagi* in the middle of the neck, the food or saliva swallowed could not pass into the stomach, and was again rejected. The absence of the usual endosmose of fluid and saliva into the blood explained the thirst. 2. *The motions of the stomach were not impeded:* they could be felt by the finger introduced into the fistula, and food passed into the fistula *was forwarded in the usual way, and did not return with the vomiting which was going on.* Thus the vagus does not possess (in the neck) those fibres by which the muscular coat of the stomach is connected with the centre of its regular actions. Nevertheless, irritation of the vagus in the neck excites the action of the stomach. 3. The secretion of the gastric juice *was little diminished.* When any diminution occurred it was to be attributed to the lack of the stimulus of food from paralysis of œsophagus. In consequence of the continued excretions of the animal, a lack of the necessary water for the preparation of the gastric secretion occurred, and its elimination diminished considerably, but rose again as soon as the surface of the alimentary canal was artificially moistened. The gastric juice formed under a general deficiency of fluid was far less acid than that furnished after a new supply of water. This, however, which in one case was observed to rise continuously till the time of death, differed little from the reaction before the operation, being, on an average, neutralised by 413 gr. of potash per cent. *Thus the chemical constitution of the gastric fluid* is not remarkably altered by section of the vagi. 4. Finally, it is proved that *the quantity of albumen digested is materially diminished* by section of the

vagi (though the function is *not* destroyed), an effect which must apparently be attributed to the alteration in quantity of the secretion—the only known change in the action of the stomach caused by the operation. [The results obtained from these experiments confirm in a most marked manner those of Dr. Reid, and also those made by Müller and Dickhoff on geese. It is, however, somewhat remarkable, that in a series of experiments performed by Bernard exactly opposite results were arrived at to those mentioned above. It is stated by this distinguished physiologist, that after division of the pneumogastric nerves in the middle of the neck, the movements of the stomach ceased, the secretion of the gastric juice was instantaneously put a stop to, and in no case did any part of the food pass through the peculiar changes of chymification. For a detailed review of the chemistry of the digestive process, I beg to refer my readers to the article on the "Chemistry of Digestion," p. 167, where the late very elaborate investigations of Bernard, Bidder, and Schmidt, and their pupils, are succinctly set forth.]—*The British and Foreign Medico-Chirurgical Review, July.*

THE VETERINARIAN, APRIL 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

Ere our cavalry come to leave their own country—a country abounding in the best of provender of all sorts, as well as in shoeing forges, shoeing-smiths, and horse-shoes of all descriptions—for one in which such requisites are scarce, in some parts, perhaps, altogether wanting, it may not be undesirable for us (who have been ourselves campaigning in our time) to make a few cursory remarks on the provision and preparation requisite to be made on that essential part of the furniture of a horse, yclept a *horse-shoe.* At one of the veterinary anniversary dinners (which in former times were in the habit of being held annually in honour of such teachers and lecturers as acted as examiners of, and threw open their schools gratuitously to, veterinary pupils) it was playfully observed by that polished gentleman and eminent master

of his art, the learned Joseph Green, that "it was the *veterinary surgeons* who, in point of fact, had obtained the battle of Waterloo;" which astounding announcement was afterwards interpreted by the putting of the question, "how the horses of the cavalry would have been able to have carried their riders *without shoes?*" Ludicrous as this at first sight may appear, there is still some genuine truth in it. Every cavalry officer knows, who knows anything at all about the matter, that one of the first requisites of his regiment, is an *effective shoeing establishment*. One of the regulations of the army, in respect to this, is, that "every horse is to be shod (or removed) *once a month*." And than such a general rule, none better could be devised; since, supposing, in consequence of little or no wear the horse's shoes be not worn out in the specified time, yet will his shoes require removing, or his feet paring, after an elapse of thirty or thirty-one days; and this *of itself* prove sufficient to call the regulation into force.

But can this, at all times and in all places, be done on *foreign* service? Is the forge-cart always near enough for that purpose to the horse, or the horse to it? Is there always a farrier present when wanted? Are there shoes at hand? These and other considerations must be taken into account, if the fine horses of our cavalry are to be maintained in that condition of efficiency in which they are about to quit their native country.

In the Peninsular campaign, the horse-shoes sent out under the charge of the commissariat, were packed in small flat deal boxes, containing (we think) about one hundred pairs in each box; and these were of the most ordinary make and construction, though of different sizes. In a country such as Spain and Portugal, where many roads were of the *pavé* character, and where, in many parts, no roads at all exist, the foot of the cavalry horse required defence; and the shoes sent out, though of coarse workmanship and indifferent material, so far answered the purpose; after being re-hammered, altered, &c., into some little better form, though still loudly complained of.

In order that the shoes intended to be furnished for the

present expedition be such as are likely to be found the most suitable and appropriate, not only should the nature of British horses' feet be kept in view, but the country whereto they are about to be transported for use ought to be considered likewise—and deeply considered too: since the nature of the surface upon which horses are likely to have to perform their work, ought to be made a very primary consideration. The parts of the country likely to be the seat of operation, are said to be composed of light sandy soils, of the nature of the Asiatic desert; countries in which our horse-shoes will be found far too strong and heavy, if not of a make unsuited for use in such ground. The Arabian or Persian form and make of shoe, will probably be found preferable. The simple reduction of weight alone of our English horse-shoe to a third or a half of its present bulk, would wonderfully facilitate its transport, either by the commissariat waggon or by the horses themselves; and thus would of itself amount to a consideration of no mean importance. In regard to such a matter as this, however, it too frequently occurs, that horse-shoes, standing in the estimation of the authorities as matters of little import, or being left out of estimation altogether, fall, for their supply, into the hands of men who know little about them, and care less; and thus it happens that a cavalry composed of the finest horses in the world, are shod with the worst horse-shoes in the world; and that the veterinary surgeons of regiments have no help or remedy for this, when they come to discover it, but to "report upon them," as "bad and unfit for the service," at an hour when they are in immediate requisition, and when the time is arrived that the horses can no longer work with the old shoes. In this want of preparation, matters are but too often carried on in our veterinary service: the fault seeming to lay in the neglect of that which, *being everybody's duty, turns out to be carried into execution by nobody.*

Three of our military professional brethren—whose communications, we regret to say, are, "like angels' visits, few

and far between"—have honoured us this month with interesting contributions. Mr. Alfred Cherry's case of "Collapse" is one of strange and peculiar interest. The charger of an officer of his regiment (the 7th, or P. R.'s Dragoon Guards) ran away with his groom, and came in dreadful collision with a stone wall, "breasting it," and knocking down a fearful extent of it, whose weight of solid stone-masonry was estimated at some *tons!* The shock was awful—the danger both to man and horse imminent. The consequences to the horse were concussion of the most alarming character to the entire system, the nerves manifesting it everywhere, particularly the spinal: the spine itself appearing to have suffered mechanical injury, as evinced by the difficulty of progression immediately following the accident, as well as from the peculiarity of his posture in standing, "his back being arched to a painful degree." The horse died, after surviving longer than might have been expected from experiencing such a tremendous shock.

Mr. Owles' investigations into the origin and nature of "roaring" seem likely to lead to some happy result. He has commenced at the right end. Next to the observation of symptoms and apparent causes of disease during life, nothing is of more importance than to trace the post-mortem changes, and connect and compare them, as closely as possible, with the normal structure and aspect of the same parts after death, in order to make such, consecutively, the groundwork of subsequent physiological deduction. In this way alone can we hope to arrive at a knowledge of that which makes the foundation of pathology sound and firm; and Mr. Owles seems to have embarked on a water which is likely to lead his vessel into some fresh region of discovery in regard to the physiology of roaring.

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TUBERCULOUS DISEASES OF HORSES IN INDIA.

(*Continued.*)

By J. T. Hodgson, V.S.

The manner in which Captain Apperley has been misunderstood, by the wrong use of the term "quittor," shews the necessity of getting rid, as Mr. W. Percivall has done in his last edition, 'On Diseases of the Chest,' of the "vulgar cant and farriers' appellations in common use." Only those used to young stock are able to guess what Capt. Apperley meant. In No. 25, '*Veterinarian*' for January, 1850, (vide p. 49), "The idea of strangles being contagious is not new. Sollysel entertained it; indeed, he thought that glanders might be caught from strangles. He viewed strangles as an effort of nature to discharge out of the system some general disease of it; and thought that horses, like children having smallpox, must have it once in their lives. The tumour between the branches of the jaw-bone did not invariably, he observed, come to suppuration, but he always thought the end better answered when it did. Some horses, however, he added, cast off this peccant humour through other parts of the body, such as the shoulder, the hock, over the kidneys, *through the foot;* through, indeed, that part of the body which was the weakest. A horse will cast his humour through a wounded part whenever Nature is prepared to get rid of it."

"These remarkable passages evince Sollysel's just notions of the nature of strangles. Many authors who wrote after him adopted his opinions."

Mr. W. Percivall, on 'Diseases of the Chest,' at p. 5, writes, "It has been my endeavour to show, that the natural or necessary consequence of transporting a horse from a cold to

a warm atmosphere, and from poor to good living, is the generation of *plethora* or fulness of blood, the tendency of which state of body is to inflammation or eruption, called 'breaking out,' the seat or site of inflammation or eruption, being the part locally predisposed, or that happens to have blood attracted to it by some cause or other of topical or specific irritation; which part, in horseman's phraseology, is said to 'fly.'" Well, when irregular strangles happens *through the foot*, it is that Capt. Apperley's treatment is then directed to it by his N.B., and which the veterinary surgeon at the Central Stud, if there be one, should have called an *abscess in the foot*, as well as explained the cause, without my making the above quotations from these able observers and writers on disease. It is not what is commonly called a quittor, arising from accidental bruise, but the result of a specific fever.

Sometimes the abscess is so small that it heals like an over-reach, with black or any other coloured wash; at other times, when the fever has run high, it extends over great portion of the foot, though the opening between hair and hoof, where it bursts at the coronet, may be small, like the sinus of a quittor. When the abscess of the foot is large, the horn has to be removed; the consequence is, that a large surface of the sensible foot is exposed; some cases will heal readily with ordinary treatment, others will not, and oftener than anything else, fungus springs up, and it becomes, what is by farriers commonly called, a cankered foot; what other name to give it I do not know, as whether this be also a tuberculous form of disease, I am only prepared to write from its being the consequence of the specific fever of domestication; from the similarity to bursautee, in the nature of the fungus, I am inclined to think it is tuberculous disease; therefore, if proper* doses of Hydrarg. Chlor. is found beneficial for the one, it will be equally so for the other. I found local applications alone insufficient for the cure of either bursautee or this disease in the foot; to neither of which I would make any pretensions to cure; but I would to preventing either by the *proper management* of young or old stock. The student cannot do better than study Mr. W. Percivall's last editions, particularly the introductory observations: it is the neglect of prevention, and to render the attack light, that is the cause of the bad cases of *irregular strangles* at the Stud Depôts in India, which unfortunately are

* Perhaps the doses mentioned by Capt. Apperley were those given by him to fillies in the second year, the time at which these diseases occur at the stud.

not under standing orders; but under the officer in charge, who may, as I have known many, not have the slightest horse knowledge when appointed to the stud, and they seldom agreed with those who had, particularly the veterinary surgeons, of whom they were exceedingly jealous. They were even so with the late Mr. Morecroft, the superintendent, and this retarded very much the progress of the breeding of *cavalry** horses. I was sorry to see Capt. Apperley thinking that he too could do without veterinary advice and assistance, which I am convinced, by experience, is detrimental to the branch of the service to which he belongs, and the interests of the Government in management of the stud department. I write this with good feeling, as may be seen by the manner I have treated the subject.

The flies, as Mr. Page remarked, are very troublesome in an Indian hospital-stable: the use of papers covered with varnish of common turpentine would diminish this; when maggots do appear in a sore, Ol. Terebinthæ very soon obliges them to quit it; but in the foot they frequently cause an extension of the wound by working under the horn. I mention this as a caution.

The stable-floors in India are only earth, and *undrained*, except a little gutter to carry off the urine; if this is not kept clean and the earth very frequently renewed, the stable soon becomes very foul; the use of *mootalles* or earthen pots, over which are placed bamboo gratings, are more objectionable still. Now I caution the student intended for India, that this is the cause of bursautee more than anything else; for irregular or regular cavalry, or grass-cutters ponies, without stables exposed to the climate, are least liable to bursautee; let him ever bear this fact in mind, that in porportion as the stables are clean from this urinous smell and well ventilated, so will horses, young or old, be least liable to malignant forms of tuberculous disease, which it should be his endeavour to prevent rather, than to attempt to cure; in which he will be often disappointed.

* From Mr. Hurford's letter to the late General Gilbert, it would appear that "Bengal stud horses of late years" had been bred for *speedy racers*, instead of that form of horse best adapted to undergo the privation and fatigue of *cavalry service*. (Vide No. 59, '*Veterinarian*' for November, 1852.)

A REPLY TO THE STRICTURES OF MR. FINLAY DUN ON HOMŒOPATHY,

WHICH HAVE RECENTLY APPEARED IN A WORK OF HIS, ENTITLED 'VETERINARY MEDICINES, THEIR ACTIONS AND USES.'

By W. Haycock, V.S., M.R.C.V.S.

"The import of the discourse will, for the most part, if there be no designed fallacy, sufficiently lead candid and intelligent readers into the true meaning of it."—Locke.

Sir,—In the '*Veterinarian*' for the month of April, of the present year, your numerous readers have doubtless perused a review of a book, entitled 'Veterinary Medicines, their Actions and Uses,' by Mr. Finlay Dun, V.S., and Lecturer on Materia Medica at the Edinburgh Veterinary College. In this book I find the author has ventured to attack the tenets of the new medical doctrine, which is popularly known to the world as the Homœopathic; and as you, Mr. Editor, have selected those passages of the work which bear upon this question, and have caused such to be printed entire, probably from the supposition that they contain a something which is not only pithy, but very damaging to the new doctrine, I trust you will favour me with a portion of space in your next journal, and I will endeavour to prove that Mr. Dun has entirely misrepresented the principles of Homœopathy, that he does not, in fact, even so much as comprehend those principles in a degree at all approaching the truth of the matter. I should not, Sir, have troubled you with the present letter; but I thought it probable that Mr. Dun's remarks may prevent some individuals from examining for themselves into the principles of the new doctrine; and thus deprive themselves of practical aids of the most paramount importance, not only to themselves, but to the public in general. The first requisite to the full appreciation of a new truth, is the clear understanding of it; and I assume it as an axiom, that ere an individual can rightly expound the principles of the new doctrine, it is first necessary that he, the expounder, should clearly understand such doctrine himself. I trust, therefore, that Mr. Dun will not consider me discourteous, when I inform him that he has taken upon himself the position of an expounder of the Homœopathic doctrine, and that

he has totally neglected the first and most essential requisite, viz., *to first understand it himself.*

That Mr. Dun does not understand it, I will now endeavour to prove from his own words, and the reader may afterwards form his own conclusions as to the value of this gentleman's elucidation of the matter.

In the motto "SIMILIA SIMILIBUS CURANTUR," or, in other words, Similars cure Similars, the reader beholds a concise enunciation of the therapeutic law, which is the *basis* of the Homœopathic system.

Now, before this question is more fully entered upon, and as a matter of course becomes more complicated, let us clearly define and determine the meaning of the words of which the above motto is composed. It is important that we should do so, as the right comprehension of the doctrine itself is dependent upon this.

First, then, with reference to the proper meaning of the word Similar, or Similars, let us take the definition of this word as given by Dr. Johnson, or, if the reader prefers, that of any other lexicographer who is an established authority: he can do so, I am perfectly agreeable, I merely select Johnson because his large dictionary happens to be upon my library table at the moment I pen these lines. "SIMILAR from the Latin word *similis*, having one part *like* another, uniform; 2, resembling, having a resemblance, likeness, uniformity." Such is the definition of this word given to us by Dr. Johnson; it is the one which I shall adopt in the present instance; and I may add, that it is precisely the meaning which Hahnemann did, and every one of his disciples does, attach to the word; but simple, and indeed self-evident, as the meaning of this word is, yet not one individual in fifty who writes against Homœopathy understands it in the sense now given: they continually confound it as meaning the *same* thing, not a *similar* thing, or as a thing having a *resemblance* merely. If, for example, I say, that Cinchona cures ague in virtue of its power of producing a similar affection within the healthy organism; I do not mean (neither did Hahnemann mean) that the drug will produce ague; but I mean that it will produce a disturbance within the healthy body; the symptoms of which if compared with the symptoms of ague, would be found in most respects to bear a very close resemblance to ague. Having thus, I trust, made this matter clear to the reader,—I mean clear as to the precise meaning I wish the word "*similar*" to be understood in, and which I contend is the only meaning which Hahnemann and all his disciples attach to it;—let us see how Mr. Dun

expounds the said doctrine of Homœopathy, because, if he attaches any other meaning to the word Similar or Similars than the one above given, his exposition will be erroneous, and, as a matter of course, calculated to mislead those who read his remarks, and who may be ignorant of the doctrine itself.

At pp. 6 and 7, of Mr. Dun's book, the author treats upon the manner by which medicines are generally believed to act when given for the cure of disease; and after enumerating some facts, and a variety of hypotheses, he goes on to say—

First.—"But about sixty years ago another method of cure was propounded by the German physician Hahnemann, who taught that the cure of a disease is effected by the administration, in small doses, of such medicines as would, when given to a healthy subject in large quantity, induce the *same* disease. This is the doctrine of Homœopathy (*homoios*, like or similar; and *pathos*, affection), the principles of which are enunciated in the aphorism *Similia Similibus curantur*."

Now the first fact which will strike the critical observer in the above quotation is the error which Mr. Dun commits in confounding the words *similar* and *same*, as having an identical meaning: he falls into this error at the very outset of his strictures, and he continues to flounder about with it to the very end.

Hahnemann does *not* say "that the cure of a disease is effected by the administration, in small doses, of such medicines as would, when given to a healthy subject in large quantity, induce the *same* disease." Hahnemann, I repeat, does not say this, neither have any of his disciples said so; and I defy Mr. Dun to the proof. If Mr. Dun would clearly understand Homœopathy, he must accept of the exposition of the doctrine as it is taught and received by the most enlightened disciples of the system; he must not favour the world with his perverted notions upon it, and then exclaim "This is the doctrine of Homœopathy, the principles of which are enunciated in the aphorism *Similia Similibus curantur*." To return, however,—what Hahnemann says is this, and I quote from his 'Organon,' "*To effect a mild, certain, and permanent cure, choose in every case of disease, a medicine which can itself produce an affection* SIMILAR *to that sought to be cured*."

Surely this is clear, so clear that, to use an old adage, "he who runs may read;" and yet, strange to stay, Mr. Dun does not comprehend it, or, at least if he does, I am really at a loss to account for the strange manner in which he has perverted it. Mr. Dun having thus expounded what he conceives Homœo-

pathy to be, proceeds very leisurely to destroy all belief in its practical results: he tells us that the law of cure "is unsupported by adequate facts and arguments, and is quite insufficient to account for the action of most remedies."

Second.—"Oil of turpentine," says our author, "destroys lumbrici and other intestinal worms; but no one will assert that it is capable of producing such parasites in what doses soever it may be given. Sulphur is notoriously one of the best remedies for removing lice and many skin diseases, but does not produce either. Arsenic, iodine, and belladonna, are homœopathic remedies for thick wind; yet none of these, not even all of them together, produce thick wind. Aurum, arsenicum, bromine, and various other substances, are given in glanders, farcy, and consumption; yet none of these, nor indeed any other medicine, is known to cause any such complaints. Even cinchona, one of the most favorite illustrations of the homœopathic maxim, and that which first led Hahnemann to the discovery of the so-called universal and infallible law, does not cause, in the great majority of cases, any symptoms at all analogous to fever, and never produces the intermittent fever which characterises ague. Lemon-juice cures, but does not produce scurvy. Iodine removes glandular enlargements, but does not produce anything at all analogous to them. Aconite, when given in allopathic doses, reduces the pulse and counteracts inflammation, but fails entirely to cause plethora or inflammation in healthy individuals. Numerous other examples, equally pertinent, might be given, showing as clearly as possible that the so-called facts, on which the whole system of homœopathy is based, are no facts at all. Any deductions or generalizations, drawn from these facts, must, therefore, of course, be quite untenable." * * * * *

"Purgatives cause diarrhœa, but do not usually check it; diuretics cause diuresis and inflammation of the kidneys, but do not stop either; and in the same way it might be said that alcohol should cure intoxication because it causes it."

I could proceed thus, Mr. Editor, and quote other portions from this extraordinary explanation of what homœopathy is; but such a course could not result in any practical good, either to Mr. Dun or to the understanding of the reader, I shall therefore content myself to deal more briefly with the matter, and allow such portions to fall into that oblivion into which all errors of a like character must sooner or later ultimately pass. I have shown wherein lies the fallacy of Mr. Dun's position; and having done this, it is not incumbent upon me to enter into further detail. I cannot conclude,

however, without a few remarks touching upon the latter portion of what I have quoted from Mr. Dun's book.

Mr. Dun says that oil of turpentine destroys, but does not produce worms; that sulphur removes lice and many skin diseases, "but does not produce either." That "arsenic, iodine, and belladonna, are homœopathic remedies for thick wind; yet none of these, not even all of them together, produce thick wind." That neither aurum, arsenicum, nor bromine, though given for glanders and farcy, "yet none of these, nor any other medicine, is known to cause any such complaints;" and that cinchona, though it cures, does not produce ague. Now Mr. Dun might have saved himself the trouble of writing such a farago of stuff as this;—no one says that these several medicines will produce any of these several diseases. The fallacy rests entirely with himself; he, in short, has drawn upon his imagination for facts; and it is certainly too bad to palm such a mass of absurd crudities either upon Hahnemann or his disciples, as the parent thereof. Again, Mr. Dun makes mention of certain experiments which have been performed at the Edinburgh Veterinary College with the homœopathic system: what these experiments were I have no knowledge whatever; but what the results would be, if such experiments were performed by any one understanding homœopathy as Mr. Dun understands it, would not, I feel assured, be very difficult to foretel.

Such of your readers, Mr. Editor, as may really desire to know what are the pathogenetic effects of the above-named medicines, I would refer to 'Jahr's New Manual, or Symptomen Codex;' or, if they specially desire to understand the pathogenetic effects of aconite only, they must consult a work entitled, 'The Hahnemann Materia Medica.'* In this latter work is contained the best and the most copious proving of this drug ever presented to the medical world.

I remain, Sir,

Sincerely yours, &c.

AMERICAN VETERINARY PRACTICE,

By J. Horsburgh, M.R.C.V.S.

Sir,—In September last I left this place (Dalkeith) leaving my son, who is a regular veterinary surgeon, in charge of the business, to visit some friends in Cincinnati, United States,

* London, H. Baillière, 219, Regent Street.

North America, in order to join in practice, if I chose, with a Dr. Bishop, 233, Rare Street, and to teach our profession there. Dr. Bishop, who is not a veterinary surgeon, is an Englishman, and has been a soldier in the Guards, in London. He has been for more than ten years in America, practising as a veterinary surgeon, and I must say he is much superior to many here who have managed to obtain a diploma. I visited, in the United States, the cities of Philadelphia, New York, Newark, Dunkirk, Cleavland, Ohio, Columbus, Covington, and Cincinnati; and, unless it be in New York, in all these places, and the surrounding countries, for a distance of 1200 miles, there is not one qualified veterinary surgeon. I got into acquaintance with a surgeon who had been at classes in London, and had been long in Washington, and had qualified there, and learnt that there, the only person practising as a veterinary surgeon was an Englishman, who had been a butcher: he had by some chance done something, and cured two horses belonging to two of the senators, and asked their names as a recommendation, which they could not refuse him. He commenced practice, and was carrying on a large business, though as ignorant of disease as one of the Indians. Here, there is ample room for our superabundant flocks of veterinary surgeons; where, instead of running after our farmers, to court their favours, waiting for their money in many cases for years, they are well paid, and for the most part with ready money. In Scotland, in a distance not exceeding six miles, surrounding this town (Dalkeith), which contains not exceeding 6000 inhabitants, there is in existence (exclusive of Edinburgh, distant only six miles, fifteen minutes' time per rail, and forty minutes per road omnibus), about thirteen men practising as veterinary surgeons, most of them in possession of diplomas: and it was only to save my practice from being entirely worried up by a number of them flocking in as hungry hounds would do on the death of the fox—some were said to have purchased my business; some had been appointed my successor; some had purchased my shop; some my horse; in fact, every species of falsehood was resorted to which was likely to forward their views;—this hurried me rather sooner back than I would have otherwise come, or rather, perhaps, I would not have come at all. However, I had been long enough there, and had had sufficient practice to see the utter ignorance of the men who pretend to cure all diseases of the unfortunate animals that come under their care. There, they must pretend to cure everything, no matter what, how long ill, what accident has befallen it, or how impossible. "I

will cure it,"—"I will cure it," is the common talk. The animal must be bled, whether it requires it or not; something rammed down its throat; and then the party walks in for the dollars.

Cincinnati is a large and increasing city of about 160,000 inhabitants, a considerable number of which are Germans, occupying a part of the city, which is divided by a canal from that occupied by people from almost every nation in the world. There is a great number of horse bazaars, of a size there is nothing like in Scotland. The horses are collected here from the breeders in the forests, and sold or shipped to New Orleans and to the different states in the south; where, it seems, their existence is but of short duration, for there are daily sales by auction. In one street there are four places, two on each side, opposite each other, where the auctioneers would rather astonish a stranger by their go-a-head practice, at the rate of fifty words for every one spoken by any of our horse auctioneers; and equally clever at cheating and lying, as many of them profess to be.

There, the diseases of horses are rather puzzlers to a newcomer among them. They have the *Bots*, the *Hooks*, the *Swinnie*, and the *Big Head*. The bots are certainly more prevalent there than here. There we are told the gadfly is supposed to deposit its eggs upon the hairs of the legs, mane, &c., though we rarely see them; there, a horse that has been out at pasture, if dark-coloured, comes in almost grey; eggs are deposited on every hair; and what is rather curious, they seem to be deposited only on the parts the animal can reach with his mouth, or where another horse is likely to bite him. The mane, the legs, the sides, the flanks, are covered. There are but few on the back, and none on the tail. Whether or not these eggs are deposited by the gadfly I do not know. I sent a few of them to Professor Dick; but I have heard no opinion about them. I had several opportunities of examining horses after death, and have always found hundreds of bots in the stomach for one I have seen here. A fine young blood gelding was brought in to Messrs. Smith's stables one day, among a lot purchased by a dealer in Kentucky. Being taken down south, he had been ill a day and night before he came, and I was called on to treat him; he appeared to be in the last stage of enteritis, and soon after died. On a post-mortem examination, I found the intestines very much inflamed, the stomach in a state of gangrene, perforated in five or six places, and hundreds of small bots sticking to it and floating in its contents in the abdomen.

The *Hooks* are very common: they are of the nature of ophthalmia. Their treatment consists in seizing and excising the membrana nictatans, of which total blindness is generally the consequence.

The SWINNIE, or shoulder-lameness, is the most common of all lamenesses. The Americans go-a-head on their horses as well as in other things. They ride and drive like madmen. Trotting with them is not a fashionable way of riding a fine horse; he must be a *pacer* or a *racker;* he must run between a trot and gallop. $500 is not an uncommon price for a fast one. There pass few Sunday afternoons but, on the road, or *down the river*, buggy races come off. Smashed buggies, smashed horses, and often smashed men, are not uncommon. Their roads are bad, their streets rough, and consequently navicular disease in their horses' feet is common. It is what they call *Swinnie.* The treatment is setoning, rowelling, and blistering the shoulders, and other, the very places, in nineteen cases out of twenty, the poor animal is *not* lame in.

The BIG HEAD is an excessive swelling of the head, or what we might call *Erysipelas*; it is not common among horses here. I have frequently fallen in with it among cattle, in which it gives way to the treatment of bleeding, purging, cupping, &c.; but there the horse is seared with a large piece of hot iron, on both sides, from the eye to the nose, and on each side of the lower jaws; by which large scars are made, which continue to remain as long as he lives.

Nephritis is rather more common than it is with us—the treatment equally absurd. Other diseases are such as we have here. Operations are done for the lampas, glibes, &c. All saddle and harness horses are docked, and their tails set by *pricking;* an operation certainly superior, where it may be required with us, to our plan of dividing the muscles in two or three places, since it leaves no scar. It is done by pricking the muscles with a small instrument (a shoemaker's awl), and keeping the horse in pullies a considerable time. However, tetanus often follows the operation.

I wrote you in August last on an old method which seems to be endeavouring to be renewed, what they call *punching off spavin* in the hocks of the horse. I happened to be in company with a few farmers, some nights ago, in the neighbourhood of Mr. Houston's, Veterinary Surgeon, Preston, where I was told some person had written a first rate paper for him, in which my assertions were entirely refuted: adding, that the thing was *personal*, or rather like it. As for the paper being intended to be "personal," or from any

personal ill-feeling to any man, I deny it. But, that these two cases—Mr. M'Ritchie's mare, and the Marquis of Dalhousie's horse—did occur, as stated in that paper, I positively affirm as true. And if I, Mr. Houston, or any other veterinary surgeon, were to perform any operation, stupid though it might be, and publicly advance *that* as something new—something superior to what others do, or can do—something speedily operative, instead of our old plan of firing, blistering, and cruelly torturing a poor dumb animal for months, what would people say? This *punching-off* does not keep a horse off work more than three days, *and cures the spavin*. Such practices are worse than American. It is for a public benefit—for the benefit to the veterinary practitioners in particular—that such practices are put a stop to; and we have no right, in such cases, to assert that notice of such practices was for the sake of originating some personal quarrel with ourselves. In any case, I have ever written to *The Veterinarian*, I have been in the practice of giving *name* and *place*, and I think it would be better if this were done in all cases; it would at least prevent people from thinking, as is done by many, it was somebody in some of our northern Mr. A. B., of C. D. manufactories; and that such cases were merely got up to increase a circulation, and fill the pockets of an editor. Mr. M'Ritchie, of Whitburgh, is a gentleman and a farmer, second to none in this county. I have no doubt he would at once attest the truth of the report of his case. The Marquis of Dalhousie's horse was sold lately to Mr. Cowan, farmer, Brian's, about a mile from this place, for about £15; he had been kept all this time, but is doing work without the spavin having been *punched off*. I should recommend any persons interesting themselves in punching to call and see him. I think they will see spavin as far off as they can see he is a horse; I think, dear as the horses are, they would think £10 a full price for such.

Not having been reading *The Veterinarian* since I went to America, I have not seen this said letter. I will see it soon, purposely to inspect this said refutation of these punching cases; but, as I am aware where this imputation was likely to have been made, unless there be something more particular in it, I shall not think it worth while to trouble you any more about it.

I am, &c.,

Your most obedient servant.

CASES,

By Thos. D. Broad, M.R.C.V.S., Broad Street, Bath.

Case I.—Tetanus.

On the 23d of April, 1853, I was requested to go about a mile out of town to see a well-bred unbroken three-year-old colt, said to be nearly suffocated. He had been observed to move his head and neck rather stiffly the day before, but was supposed to be breeding the strangles; consequently, there was not much notice taken of it. On examination, I found it had tetanus in the most acute form, the jaws being completely locked; I then made inquiries as to whether the colt had been in any way injured; also examined for that purpose myself, but could not find that it had. The colt had been running all the winter with a yearling colt in a very hilly and exposed situation; although there was a shed in it, wherein they had been fed daily with hay, and were in very good condition. The owner and his friends thought it referable to the extreme cold weather we had for a few days about that time. I told them there were several cases reported in the '*Veterinarian*,' supposed to have arisen from that cause, but I had never seen such a case; in fact, we have the direct evidence of the researchers in the Arctic regions that extreme cold produces a state very much resembling intoxication, which state I consider the very reverse to tetanic. The colt was brought to my infirmary. I tried the effects of Extract of Belladonna and Chloroform, but with no good result, as he died on the 26th. During the time he was in my infirmary, I observed a symptom of cringing of the loins, which led me to think it possible he may have received some injury of that part.

Before stating the result of the *post-mortem* examination, it may be well to inform you, that, in October 1852, this colt was thrown for castration by an ordinary castrator; one testicle was removed, the other taken hold of, but was retracted with such force that it was not possible to get hold of it again; neither was there any appearance of it in the scrotum afterwards: the colt then began to lose condition, and continued to do so for two or three months, but subsequently regained his condition.

Post-mortem.—All the internal structure appeared healthy, with the exception of the remains of the missing testicle, which was hanging loosely in the abdomen by the side of

the pelvis; the testicle having been entirely absorbed, and about two pints of fluid of the colour and consistence of porter deposited in its place; the tunics forming the sac were in a state of gangrene, and the fluid undergoing decomposition.

Remarks.—No doubt the disease of the testicle was caused by the gripe given to it at the time of its slipping from the hands of the castrator: causing inflammation, subsequent absorption, and deposition of fluid.

Case II.

Some time since I was requested by a farrier to go a distance into the country to see a case of tetanus in a five-year-old mare, which he had had under treatment for a week, and could do nothing more for her.

On examination, I found the disease fully developed, the jaws being completely locked, and all the muscular system in a state of spasm. I found the cause to have been an external injury of the coronet of the off hind-foot. She was then in a stable with other horses which I had removed immediately, allowing her the stable to herself, which was also made as dark as possible, and orders given that no person but the groom be allowed to go in to see her.

Treatment.—I applied a plaster of Extract of Belladonna over the wound on the coronet, and ordered it to be repeated daily; put on the inside of the lips by the side of the grinders, by means of a small flat stick, about ʒij of Ext. of Belladonna, which I ordered to be repeated twice per day. Three days subsequently I met the farrier at Bristol fair; he informed me that the mare was not worse, but he thought there was a little improvement, and he should like me to see her again; consequently I made arrangements to meet him at the place on the following Wednesday, that being exactly one week from the time I first saw her. I went according to promise, and found Mr. Farrier had been some hours earlier than the appointed time; and finding the mare so much better he said he should give her a ball to open her bowels a little more, and it was not necessary to continue the Belladonna; at the same time stated that he could not wait, as he had a particular case to attend to.

When I arrived, I found the mare eating a feed of corn, and was informed that she had eaten several feeds in the last two days, as they considered she was all right; as I was going up towards her, she turned round and kicked at me viciously, so much so, that she kicked my Mackintosh, just

escaping my leg, and ran round the stable. I told the owner she did not require any further medical treatment, and was then informed, for the first time, that the farrier had given her an opening ball in the morning. I told him it was very wrong, as I had given him an express order not to alter the treatment: in about a week after this the owner wrote to me stating that on the day following my last visit the mare began to purge, and continued to do so for three days; she then got down and could not rise, the farrier then slung her, but could not stop the purging, and she died on the fourth day.

Case III.

May 10th, 1852.—I was called a distance of five miles to see a five-year-old cart mare, said to be very stiff from cold. On seeing her, I at once saw she had tetanus coming on; I then made inquiries, and found that she had picked up a nail about a week before, which was taken out, and no further notice taken of it, not even the foot cut out: in fact, she had been put to cart-work that day to take off the stiffness. I gave a strong dose of physic in the shape of a ball, which she took without any difficulty; ordered the foot to be soaked in hot water for two hours, and afterwards stopped: as it was so hard it was next to impossible to cut it out properly.

11th.—Symptoms about the same; cut the foot out well, the wound appeared to have healed, and did not require any dressing; gave the foot a good soaking in hot water, the same as last evening; the bowels not acted on, I administered another ball, composed of Belladonna and Aloes, of each ʒij; left a ball of the same to be given in the evening, if the bowels were not acting; repeated injections of warm water during the day: to be kept as quiet as possible.

12th.—Bowels acted on once during the night, but not soft; other symptoms much the same; I repeated the ball as before, with repeated injections of warm water and tobacco smoke alternately; left Extr. Belladonnæ ʒij, to be put into the mouth in the evening.

13th.—Jaws too close to be able to give a ball; give the Belladonna, and continue injections; bowels acted once or twice after the injections; drinks rather freely of gruel.

14th, 8 A.M.—Breathes with such difficulty, that, had I my tracheotomy tube with me, I should insert it; bowels acted slightly after the injections; continue Belladonna and injections.

6 P.M.—Breathes with more difficulty than in the morning, all the other symptoms much the same; opened the trachea

and inserted the tube; after a short time the breathing became quite tranquil, and she drank a bucketful of gruel; continue the same treatment.

15th.—Breathing tranquil; drinks a quantity of gruel; by raking and clystering, dung is brought away; she looks better to an ordinary observer, and the owner has a good opinion of her, but the spasms continue about the same. I passed an ounce bottle full of Chloroform up the rectum, as far as I could reach, and emptied it, leaving the same quantity to be passed up the rectum in the same manner in the evening, which treatment I continued, together with the Belladonna, tobacco enema, and warm water; until the 21st, when I saw it was no use to continue treatment any longer. I used from 2 to 4 oz. of Chloroform per day; for several days. The only effect produced by the Chloroform was great excitement, at first so much so that I thought she would have fallen on having the first dose administered; subsequent doses did not produce the same effect; I saw no relaxation of the spasms from its administration, although I used as much as 2 oz. at a time, which I repeated twice per day. She was killed on the 22d.

Case IV.

May 27th, 1850.—I was called to see a cart colt a month old, with all the symptoms of tetanus fully developed without any apparent cause: he was not able to suck his dam.

I ordered ʒj of the Extract of Belladonna to be put into his mouth twice per day; he was a very awkward customer to dose, but with patience it was done, and in the course of two or three days he began to try to suck; by the 7th of June, he was sufficiently recovered to be turned out with the dam without further treatment.

Case V.

February 12th, 1850.—I was called to attend a cow: I found her feeding slowly; the pulse but little affected; the bowels rather constipated; the muscles of the neck rigid; the symptoms altogether indicating tetanus.

Treatment.—Gave a saline purgative, which she took very well.

13th.—Saw her in the morning, medicine had not operated, she appears worse; gave more aperient medicine. In the evening, she appeared better, bowels acting from the effect of the medicine; gave her Extract of Belladonna and Nitric Ether.

14th.—Does not appear so well this morning; her bowels are again constipated; tetanic symptoms returned; gave with great difficulty another dose of Belladonna and Nitric Ether. Saw her again in the evening, when she appeared worse. On the following morning she was down, and I had her destroyed.

Case VI.

A short time since, a small terrier dog was brought to me with a slight wound between the claws of one of his fore feet; I sent a small bottle of tincture to be applied daily: about the third day he was brought again, said to be unwell. I saw that tetanus was coming on, I administered a dose of purgative medicine, and gave him a warm bath immediately; the bath was repeated several times, but without any beneficial effect, as he died on the following day.

CASE OF "TABES MESENTERICA."

By Alfred H. Cherry, V.S., 7th Dragoon Guards.

A bay mare, 3 years old, purchased at Mullingar Fair in November last, joined head quarters in good condition and high spirits, so much so that it was dangerous to approach her, or even to groom her for some days afterwards. She was a very promising remount. Soon after this, she commenced to fall off, refused her ordinary rations. Bran was ordered, but this she evinced a dislike for. Oatmeal was substituted, but with a like result; when, thinking there might be some foreign or irritating substance in the intestines, a mild purgative was prescribed, which operated favorably, and for a few days improvement was manifest. She soon, however, went back again. About a month after this she showed symptoms of catarrh, for which she was treated in the ordinary manner; those symptoms I imagined to be premonitory of strangles, which however never came forward. Her throat was blistered and head steamed, and ultimately a profuse discharge of mucus escaped from the nostrils. From the above treatment the discharges ceased; still she did not improve at all in appearance. Shortly after this, pediculi appeared all over her body. The tail, from continually rubbing it, was denuded of hair, as also were various parts of her body. Infus.Tabaci c. Hydrarg. Bichlorid.was applied on three

sueeessive oeeasions, and she appeared quite free from them. Nevertheless, no amendment took place; but, on the contrary, great debility supervened. Carrots and every possible kind of nutritious food were obtained for her; but yet she gradually continued wasting, was hide-bound, and became a wretched looking object. Thirst diminished; searcely drinking daily more than a quart of water. Excretions healthy; but of course not frequent, from the small amount of nutriment consumed. Tonics and diffusible stimulants were administered for a long period, without any favorable result. At length they were ordered to be discontinued, and no further treatment adopted than generous diet, and attention to her eomfort. As the spring advaneed, she was with great difficulty and eare led out in the sunshine, upon the Barrack Green, and allowed to nibble the young grass. This seemed to have a temporary beneficial effect: her eoat became more glossy and healthy; she appeared more lively, and I began to hope that a change had now taken place for the better. This however lasted for a few days only, when she again commenced to get worse; and on the morning of the 9th April, 1854, she fell down in her box from pure exhaustion and debility. The sphincter ani was relaxed, and there was every appearance of death about to take plaee. She died that night.

Post-mortem examination showed the lungs moderately healthy, except at the apex of the near lung, where there were appearances of acute inflammation to a small extent. The stomach was healthy, but contained no particle of ingesta. The omentum eould searcely be traeed. Liver and spleen healthy. The intestines were very white and flaceid; but, otherwise, presenting no unusual appearanee. The mesenterie glands greatly enlarged, and very scirrhous. The mesentery itself was mueh attenuated, and appeared scareely thieker than a spider's web; and near to that part where the colon terminates in the reetum was an immense large abseess, from which, when eut into, more than four quarts of ereamy pus escaped; and on further examining this tumor, a seeond cavity was found, whieh also eontained nearly as much matter as the first one, and of the same eonsistency. The eoats of this tumor were very dense in texture, being three quarters of an ineh in thickness, almost cartilaginous, and it was with diffieulty the knife opened it.

For some weeks prior to death, I coneeived this to be a ease of *tabes mesenterica*, and entertained but small hopes of reeovery. In my opinion, had strangles eome on in its natural form, at the period of the catarrhal symptoms, these mesenteric enlargements and abscesses would not have taken

place. The sequela of these cases of suppressed strangles is generally the formation of matter in the lungs, and the animal dies of acute phthisis; it being evident that matter in such cases must form somewhere, and that, if not discharged externally by suppuration of the submaxillary or parotid glands, it must collect in some internal part. I have frequently had cases of this metastasis to the lungs; but this is only the second case I have met with where it has resulted in "Tabes mesenterica."

Cahir Barracks; *April* 11, 1854.

ENTERITIC AFFECTION.

By W. Arkcoll, V.S., Leek.

Dear Sir,—On looking over my case-book the other day, I found the enclosed case, one which may cause some young practitioner to adopt the motto, '*Nil desperandum*,' however hopeless the case may apparently seem.

On May 28th, 1851, I was sent for to go to Cansall Hall, to see a horse belonging to —— Smith, Esq. He was found rolling in the field when they went for him to work, and he had been ill all day. I arrived there about 5 a.m., and found my patient was one of the farm horses, about nine years old, and a rig: but one testicle having ever been extracted. He was extended in a loose box, his extremities and mouth nearly cold; pulse 120, and barely to be felt; had been rolling and kicking all day, and now would not, or could not, be got up. His owner, an amateur doctor, had been giving him jalap, *cum multis aliis;* but, as the man said, he kept going worse, and nothing went through him. I told the owner, I was afraid it was a hopeless case. He wished me to do something for him. I told him I would try what *hot water* would do for him. I got about a pint of thick black blood from him, and then it ceased to flow. I first raked him and extracted a few hardened fæces; had all his legs well hand-rubbed, and his ears pulled: in the interim, I had caused a gallon pot of water to be heated to boiling; and when he was made as comfortable as we could, I took a quart pot and poured a quart of the boiling water upon his abdomen. This, after a minute, caused him to find the use of his legs; he then lay down on the contrary side, and I gave him another dose. I afterwards administered some

Ol. Lini, Tinct. Opii, cum Spt. Nit. Ether; gave him an injection, and left him. Having to see another patient, I left directions, if he should be alive in the morning, to let me know. About 6 a.m. I was agreeably surprised at seeing the boy from the Hall, to say the horse was alive, but that he would not eat, neither had he dunged; although he did not seem in much pain, but stood up, with his head in the manger; and also, that he was much swollen underneath the belly. I immediately started, and found my patient much improved: pulse 96; extremities, &c. more comfortable, and apparently in little or no pain. I had him again well rubbed, &c. and horned some gruel and Ol. Lini into him; raked him, and got some more hardened fæces from him; gave another injection, and left him with good hopes of his recovery. I visited him the following day, and found him still further improved; took a little bran, &c. and regulated his bowels with Ol. Lini, and a few simple powders; after which he continued steadily to mend, although I had some trouble in the end to cause his belly to recover from the effects of the hot water.

If you think the above of any use in your Journal, it is at your service; at the same time I remain,

Yours truly.

April 14, 1854.

REPLY TO MR. MAYHEW'S PAPER ON THE PHYSIOLOGY OF THE HEART;

By Robert Dun, Edinburgh.

In the last number of the *Veterinarian* I observed a paper by Mr. Mayhew, entitled 'Some Thoughts concerning the accepted Physiology of the Heart.' In the progress of his thoughts, Mr. Mayhew puts forth certain opinions, which appear to be very much at variance with the present state of our anatomical and physiological knowledge. He doubts the muscularity of blood-vessels, although he has not used the microscope to satisfy himself that he is in the right. He considers that the ventricles are contracting all the time the auricles are dilating. He considers that the use of the auriculo-ventricular valves is, by means of the cordæ tendineæ, to give a sort of impulse to the walls of the ventricles, and thereby promote the expulsion of their contained blood. He considers that the semilunar valves are "floating mem-

branes," although they act in some mysterious way "to keep the blood left within the aorta, or pulmonary artery, from mingling with the fluid poured into the ventricles."

Mr. Mayhew states, in the first place, that although "it is very general to say, that arteries have three coats, one of which is muscular," yet he has "in vain endeavoured to discover anything approaching to organic fibre in the tubes of arteries." Now, although it was at one time thought that the middle coat of arteries was *entirely* composed of yellow elastic fibrous tissue, it has been clearly shown by many eminent microscopists, especially by Professor Kölliker, and can easily be demonstrated, that in this coat many organic muscular fibres are to be found; in fact, that in some arteries they form the greater part of the middle coat. "However," as Mr. Mayhew very justly remarks, "the blindness of one man makes no way when urged against the positive perceptions of another." Again, had Mr. Mayhew been keeping up with the knowledge of the day, he might have known that the middle coat of veins, like that of arteries, is partially muscular, and has been recognised as muscular for years. Mr. Mayhew may have been taught that the venous coats are not muscular; but it is surely the duty of every professional man, before he writes for the instruction of his brethren, to make himself aware of all the previously ascertained facts, with regard to the subject of which he treats.

Mr. Mayhew says that he has been unable "to investigate the smaller vessels by means of the microscope," and yet presumes to doubt the existence in their walls of organic muscular fibre-cells, of such minuteness, that two thousand of them would lie on an inch. What other instrument but the microscope could be used for the detection of these objects?

After this digression, which, for his own credit, might have been omitted, Mr. Mayhew goes on to say that, according to the present theory, the blood is propelled from the auricles to the ventricles by the contraction of the former. To this he takes objection, from the fact of the circulation being carried on in a heart with an ossified auricle, which could contract very slightly, if at all. So far, so good. But he remarks, with the air of one who has made a great discovery, that the venæ cavæ and pulmonary veins possess a distinct muscular covering, and that their contraction assists that of the auricles to fill the ventricles. This is no new discovery. The muscular covering of the cavæ of the horse extends on the anterior cava to the axillary vein, and on the posterior cava to the diaphragm. This coating, however, appears to be stronger on the pulmonary veins than on the cavæ. These

facts have long been known to anatomists and physiologists. For example, in Dr. John Reid's article on the Heart in the 'Cyclopædia of Anatomy and Physiology,' p. 28, col. 2d (1838), the following passage occurs: "The terminations of the cavæ and pulmonary veins are seen to contract simultaneously with the fibres of the auricles; but sometimes they are seen to contract previously to the auricles, into which they expel their blood. In cold-blooded animals, this contraction of the terminations of the large veins extends over a greater surface, and is visible in the venæ hepaticæ. Judging from the number of *muscular fibres* which surround the terminations of the pulmonary veins in the human species, we would expect these contractions to occur to a greater extent in these veins than in the cavæ. These contractions in the veins must assist the *vis a tergo*, or the force with which the column of blood flows along the veins towards the heart, in limiting the regurgitation along these during the contraction of the auricles."

In the course of his argument Mr. Mayhew asks, rather irrelevantly I think, how we can, "according to our present theory, account for the circulation being carried on in those instances, when the pericardium covering the ventricles has been changed to bone?" I cannot see anything to hinder the circulation from going on quite well, as it always does in these cases, so long as the pericardium alone is the seat of the ossification. The pericardium is merely useful to fix the heart in its place, and to moderate its motions; and these functions will not be materially impaired by its partial ossification.

In discussing the circulation of the heart, Mr. Mayhew has fallen into a vulgar error. He remarks, "the heart may have four cavities." That is perfectly true. "But it has *only two cavities open at one time, since as one expands the other closes.*" Now, this is not strictly true. The heart, for a certain time during each pulsation, has all its cavities open. For, immediately after the ventricular systole, the auricles are not found quite full, and go on filling with the venous blood, part of which also passes directly on to the ventricles.—(*Carpenter.*) When the auricles then are full, and ready to contract, the ventricles are partially dilated. In fact, Dr. Carpenter also states that seven eighths of the period of one pulsation is occupied by the dilatation of the auricles, and only one eighth by their contraction. While, as to the ventricles, their contraction occupies one half of the period of one pulsation, and their dilatation the other half. It is, therefore, obvious, that during three eighths of the time of one pulsation, all the four cavities will be dilated together.

But now comes Mr. Mayhew's *chef d'œuvre*,—his discovery of a new fact with regard to the tricuspid and mitral valves. He states that, when the auricles are contracted they form the roofs of the ventricles, and thus render the tricuspid and mitral valves useless as a separation between the auricles and ventricles. He denies, however, that the valves are quite functionless; for, he thinks that during the contraction of the ventricles, the fleshy pillars lessen in size, and so tighten the cords as to pull the walls of the cavities up, and thus to cause the expulsion of their contents into the aorta and pulmonary artery. The contents of the ventricles are, according to him, prevented from passing into the auricles, on account of these cavities being already filled with blood.

Mr. Mayhew appears to think, that, by the contraction of the muscular fibres of the ventricles, the walls of these cavities become thinner, and that the carneæ columnæ are thus lessened in size. Now, it is plain that, on the contrary, the walls will increase in thickness as they shorten in length, and that the fleshy pillars will also be more clearly defined. This is distinctly stated by Dr. Carpenter (Human Physiology, p. 478). The cordæ tendineæ and valves, then, which during the dilatation of the ventricle are kept comparatively tense, become slackened by the shortening of the ventricular cavity, and when the blood is propelled up against them, the valves will be driven into the auriculo-ventricular opening, and the cordæ tendineæ rendered tight. This tightening of the cords thus appears to be the *effect* of the expulsion of the blood from the ventricles, and not its *cause*, as Mr. Mayhew has vainly endeavoured to show: for, the muscular contraction of the ventricles is enough to account for the expulsion of their contents, without believing that the cords are sufficiently powerful to communicate an impulse to the thick walls of the cavities.

Again, to say that the presence of fluid in the auricle is sufficient to resist the strong impulse of the current of blood from the ventricle, without regurgitating, is quite preposterous. Indeed, in the diseased condition of the valves in which they are so corrugated by partial ossification, as to be unable to flap up into the auriculo-ventricular opening, there is sufficient evidence to show the fallacy of Mr. Mayhew's view. For, in that condition a murmur, caused by the regurgitation of blood, is well known to acompany the first sound of the heart. This disorder of function appears to be identical with that which Mr. Mayhew supposes to be the natural action of the auriculo-ventricular valves, and shows

that the presence of blood in the auricles is not sufficient to prevent regurgitation, unless the auriculo-ventricular opening be filled by the valves. The fact that the mitral valves are stronger than the tricuspid, appears to support this opinion; for, on the left side of the heart, there is never any regurgitation of blood into the auricle in health; while, on the right side, regurgitation is not uncommon in cases of obstruction to the pulmonary circulation. The stronger the valves, the more able are they to fulfil their natural functions. Lastly, the very occurrence of the first sound of the heart appears to depend, in part, upon the "backward impulse of the blood" against the valves, (*Carpenter*).

As to the action of the semilunar valves, Mr. Mayhew appears to have a very vague and indistinct idea; for he takes occasion to censure "the learned editors" of Guy's Hospital Reports, for not having been able to perceive "that the semilunar valves, when there is blood on both sides of them, become merely floating membranes." Now, as I understand the subject, the semilunar valves are three fibro-serous flaps found at the ends of the aorta and pulmonary artery, one of their edges being attached to the wall of the vessel, and the other projecting into its cavity. Each of these flaps is more than sufficiently large to extend horizontally into the centre of the cavity of the aorta, or pulmonary artery; but they do not overlap; for the surplus part of each is doubled up vertically, and meets its fellows back to back, their free edges coming together in the middle, and shutting up the cavity completely when the ventricles are dilated. The parts of the valves which are not turned up, are thicker than the turned up portions, and during the dilatation of the ventricles, present a slightly convex appearance when looked at from below. When the ventricles contract, the blood, unable to escape by the auriculo-ventricular opening, forces up the semilunar valves, and enters the pulmonary artery and aorta. The valves are, however, prevented from being driven flat up against the walls of the vessels by the small amount of blood still contained in the sinuses of Valsalva behind them. After the evacuation of the ventricles, the blood, from the contraction of the arterial walls, and from its own weight, has a tendency to be driven back again towards the valves, and, by pressure upon them, to force them back into their place. This action is further promoted by the mere weight of the valves themselves, and by the pressure of the blood in the sinuses of Valsalva. From this it will be seen, that the valves, like self-shutting doors, move freely by pressure of blood only in one direction, that is, up into the cavity of the

artery, and that they cannot move in the opposite direction after they reach their level position.* It is this circumstance that gives rise to the production of the second sound of the heart, which is quite ignored by Mr. Mayhew. That sound is caused by the falling down of the blood upon, and the consequent tension of, the semilunar valves, and could not be produced at all if the valves were as Mr. Mayhew thinks, "merely floating membranes." That the second sound is so produced, has been satisfactorily and clearly proved by the well-known and conclusive experiments made by Dr. C. J. B. Williams and Dr. Hope, and recorded in Dr. Williams' work on the 'Pathology of the Chest,' published in 1835. The following are two of these experiments:—

"Observation VI. A common dissecting hook was passed into the pulmonary artery (of an ass), and was made to draw back, and thus prevent the closure of the semilunar valves; the second sound was evidently weakened, and a hissing murmur accompanied it. A shoemaker's curved awl was then passed into the aorta, so as to act in the same way on the aortic valves. The second sound now entirely ceased, and was replaced by a hissing.

"Observation VII. The hook and awl were withdrawn; the second sound returned, and the hissing ceased."

These experiments require no comment; but I must hasten to a conclusion. As a whole, Mr. Mayhew's paper is badly arranged, illogical, and sometimes, indeed, hardly intelligible. It contains many errors, of which I have pointed out the more important and serious. It enunciates opinions unsupported by any evidence whatever, and often entirely disproved by observation. Such opinions could hardly have been advanced with credit twenty years ago, and still less at the present time, when the tide of progress flows fast. I have, therefore, felt myself justified in pointing out their fallacy, in order that the veterinary profession, as a whole, may not appear to lag far behind in anatomical and physiological knowledge.

Edinburgh Veterinary College;
April 17, 1854.

* The views herein stated are admirably expressed by Mr. Struthers, in a paper read before the Physiological Society, in June, 1853, and now published in a collection of that gentleman's works, entitled 'Anatomical and Physiological Observations.' (Edinb. 1854.)

REPLY TO MR. MAYHEW'S PAPER "ON THE USE AND ABUSE OF BELLADONNA."

By William Smith, Student of Veterinary Medicine, Edinb. Veterinary College.

Mr. Edward Mayhew, M.R.C.V.S., London, contributes to the April number of the '*Veterinarian*,' a paper 'On the Use and Abuse of Belladonna.' To allow this article to remain unnoticed, even for a single month, might be misconstrued as a tacit approval on the part of the profession of the confused and untenable views which it enunciates; and, as a humiliating admission of a serious charge of "prejudice" against the use of belladonna, and of incapacity to distinguish pneumonia from other disorders.

Mr. Mayhew commences by expressing his conviction that "true pneumonia is, in the present age, but seldom witnessed." (p. 189). This conviction is assuredly borne out by all observation and experience; but from the manner in which it is stated, we are led to infer that true pneumonia was a common disease in previous ages. This is very far from being correct. True pneumonia (by which we understand inflammation of the capillary walls of the air-cells of the lungs) has ever been, and still is, of rare occurrence. Along with a variable amount of inflammation of the pleura, it constitutes, however, that common affection which is usually styled pneumonia, and has at all times been regarded as the most simple and curable of internal inflammations.

Mr. Mayhew entertains the idea that "pneumonia was not formerly one half so fatal as it is at the immediate moment." (p. 189). This statement, although entirely gratuitous, unsupported by adequate evidence, and at variance with general observation, he forthwith endeavours to explain on the audacious assumption that the present race of practitioners are less competent than their predecessors to distinguish ordinary pneumonia from diseases which simulate it. He concludes in the following terms: "Influenza, I take it for granted, is, in a number of cases, mistaken for pneumonia." This charge is surely inapplicable to the profession at large. Such a mistake *may* occur with a few old-fashioned practitioners, who neglect the use of modern aids to diagnosis. With ordinary care, there is, however, no difficulty in distinguishing the two diseases just mentioned. Pneumonia consists in acute inflammation of the lobular structure of the lungs, and usually, also, of the lower parts of the pleura, and

is accompanied by high fever, a hot skin, a dry mouth, and a full bounding or oppressed pulse. Influenza consists in typhoid inflammation, affecting in greater or less degree, most of the respiratory organs. It prevails usually as an epizootic, exhibits a marked tendency to degenerate exudation, and produces a soft compressible pulse, coldness of the surface, and early extensive and lasting weakness. If Mr. Mayhew is in the habit of mistaking such a disease for pneumonia, and treating it as such, there is no wonder that he should find his so-called "pneumonia" "much more fatal at the present time than formerly."

Pneumonia, it is true, now assumes a somewhat different type from that which it exhibited during the first two decades of the present century. It has lost something of its sthenic character, and does not stand the depletive and antiphlogistic treatment with which it was then successfully combated. But this well-ascertained fact may surely be explained without libelling our practitioners as inferior to their predecessors in observation and intelligence, or finding them guilty of mistaking two such dissimilar diseases as pneumonia and influenza. It depends, we conceive, on a change which has been gradually taking place during the last thirty years on the constitution of all animals, man himself not excepted, which has affected the character of all fevers and inflammations, and has been noticed by many medical authors. This growing tendency of disease towards an asthenic type, with the consequent intolerance of antiphlogistic treatment, results from causes which are as yet inexplicable. We observe the fact, but have hitherto been unable to discover its cause. In large towns the phenomenon is especially notable, partly, no doubt, on the unhealthy sanitary state of town-kept animals. Such animals, when affected by disease, are particularly remarkable for their withstanding badly bleeding, physicking, or any of the so-called heroic remedies, and for their requiring, even in inflammatory disorders, early and large doses of tonics and stimulants.

In conclusion, allow me to offer a few remarks regarding Mr. Mayhew's use of belladonna. That valuable remedy is a narcotic nearly resembling opium in its actions and uses. It has been found exceedingly useful in the cure of tetanus. It possesses the peculiar property of contracting the iris, and develops this effect whether it be used internally or applied around the orbit. Although some of the other less characteristic actions of the drug are noticed, Mr. Mayhew appears to have entirely overlooked this most remarkable influence on the iris. From the general actions of belladonna, we appre-

hend that, like opium, it is quite useless in the early stages of acute inflammation. Indeed, it has been found of little benefit in cases of ordinary pneumonia. (See Mr. Dun's 'Veterinary Medicines,' p. 140.) From its calmative properties, it is, however, a valuable substitute for opium in many cases of influenza, and should be given in the form of a carefully-prepared extract, in doses of one or two drachms, with sweet spirit of nitre, spirit of ammonia, or other diffusible stimulant.

ADVANTAGES AND METHOD OF USING GUTTA PERCHA SKIN.

By C. Hunting, V.S.

Dear Sir,—The reason I have not written you before this, respecting the gutta-percha skin used by me in the case of lamanitis (reported in your March number), is, that my residence being ten miles from the nearest large town, I am obliged to rely upon a small village bookseller for your publication, whose London agent omitted to enclose your March number in his monthly parcel: so I could not get it until last week.

In the reduction of local inflammatory action in any part of the lower extremities (or wherever it is convenient to apply it), I invariably use the gutta-percha skin, which is simply laid over the *wet* bandage covering the inflamed surface.

The great advantage derived from its use, is the *constant moisture* and *uniform temperature* kept up for many successive hours without an attendant. If the bandage beneath the skin be remoistened once in twenty-four or thirty-six hours, it is quite sufficient; whereas, without the use of the gutta percha skin, it would require to be renewed every two or three hours, if any benefit is to be derived from its use.

Yours truly.

South Hetton Colliery, Durham.

VETERINARY JURISPRUDENCE.

NOTTINGHAMSHIRE SPRING ASSIZES.

Nisi Prius Court.—Friday.

(Before Mr. Justice Coleridge and a Common Jury.)

(*Extraordinary Case.*)

Geething *v.* Reeves.

This was an action upon the warranty of a horse. Mr. Mellor, Q.C. and Mr. Adams appeared for the plaintiff, and Mr. Macaulay, Q.C. and Mr. Hayes for the defendant.

Mr. Mellor, in stating the case, said that the plaintiff, Edward Geething and the defendant, Samuel Reeves were both extensive horsedealers. The former resided at Hawton, near Newark, having also an establishment at Grantham; while the latter resided at Marlborough. On the 10th of February, 1853, the parties met at Northallerton fair, and there Mr. Geething purchased of the defendant a bay gelding, for the sum of £115. He noticed at the time that the horse appeared to be somewhat lame in one of his hind legs, but this the defendant accounted for by stating that it had been kicked during the previous night, and he assured him the injury was but a temporary one. He gave him a warranty "that the horse was sound and free from vice, and that he was neither a crib-biter, roarer, or windsucker," and to this, the usual form, he added the words, with some impropriety, no doubt, as far as the sense was concerned, though evidently it was simply intended to extend the warranty in every respect to the doubtful leg, "especially with regard to the off hind leg." This warranty Mr. Reeves signed, the money was paid, and the horse delivered to its new owner. Mr. Geething sent the horse, with a number of others he purchased at the same fair, to his residence. He did not himself see the animal until a day or two afterwards, and then suspecting the lameness was not of the nature the defendant had alleged, he caused him to be examined by two veterinary surgeons. They attributed the lameness to disease in the hock, and he therefore wrote to Mr. Reeves, asking him to take back the animal on account of its being unsound in the manner he had stated. The defendant did not object to do this, but suggested that he should keep the animal for a short time

longer, to see if he became any better. Mr. Geething did this, and the horse certainly did, for a time, appear to improve, but he now attributed this to the fact of its having so continued a rest. It afterwards, however, became worse, and it was sent to London to be examined by some eminent veterinary surgeons there. Mr. Geething then learnt that in addition to the lameness, which was caused both by disease of the hock and ringbones, it was also a roarer. Mr. Geething applied repeatedly to the defendant to take back the animal and restore the purchase-money, but although he at first expressed his willingness to do this, he continued deferring it. Mr. Geething had another transaction with Mr. Reeves, and in this case also he found something was the matter with the horse. Mr. Reeves took back this animal, though in the end he refused to do so in the present case. Eventually, therefore, he gave Mr. Reeves notice that were the horse not removed before a certain day, and the purchase-money and the expenses returned, he should cause it to be sold by public auction in Newark Market-place. The horse was not removed, and accordingly on the 13th of July it was sold as it had been announced, £75 being the price obtained. He believed the reason why so large a sum as this was paid was that the agents of Mr. Reeves and Mr. Geething were bidding against each other as to whom should be able to bring it for the inspection of the jury. Mr. Geething afterwards applied to the defendant for the balance of the purchase-money, and for the expense of the horse's keep; and in reply the latter admitted that the horse had been a roarer, but alleged that at the time of the sale it was as sound a horse as ever walked. He therefore refused to pay the amount claimed, and in consequence the present action was brought to recover £76.

Mr. Adams then called and examined the prosecutor, who corroborated the statements contained in the opening speech. The amount he now sought to recover was not merely the balance of the purchase-money, but also the horse's travelling expenses, the fees paid to the veterinary surgeons, and 157 days' keep at 3*s.* a day. The latter charge would not have been nearly so large had he not kept the horse much longer than he otherwise should have done at the frequently repeated request of the defendant.

A servant of the plaintiff's, who was present at the purchase, and who afterwards had charge of the animal, was also examined in corroboration. He heard Mr. Geething object to buy the horse without a special warranty, and this the defendant gave. He also was some time afterwards present when Mr. Reeves expressed his willingness to take back the

horse, but trusted Mr.Geething would keep him a little longer, and give him "a bit more physic." He never suspected him of being a roarer, until he noticed a thickness in his breath when riding him up Barrowby Hill, near Grantham, just before he was sent to London. He had previously only had walking exercise, and that not every day, as he could not stand it.

In answer to Mr. Macaulay, he denied that at the time his master purchased the horse he had tried him at a gallop.

A number of veterinary surgeons, resident, some in the metropolis and others in the country, were in succession called. They proved that the horse was suffering from spavin, or disease of the hock and ringbones or bony enlargements round the pastern, the result of which was that the animal was incurably lame. The witnesses from London, among whom were Professor Spooner, of the veterinary college, and several other professional men of considerable eminence, proved that they examined the horse in July, and that it was evident the disease under which the animal was then suffering was of very long standing. They described it to be lame in both hind legs, spavin and ringbones existing in each. The off hind leg, the one to which Mr.Geething's evidence was originally drawn, was, however, the worst.

In conclusion, *Mr. Mellor* called a witness, Mr. Geething's agent in London, to prove that the horse shown to these veterinary surgeons was the one Mr. Geething had sent to him, and which it had been proved by other evidence was the one he had purchased of the defendant.

His Lordship asked whether Mr. Mellor intended to rest anything upon the fact of the horse being a roarer. He reminded him that no defect in its wind at all was discovered until it had been some months in the plaintiff's possession.

Mr. Mellor intimated that he did not intend to rest anything upon that.

Mr. Macaulay then addressed the jury for the defendant, and in the commencement expressed his astonishment at the last piece of evidence, as his own belief was, after hearing the plaintiff's evidence, and knowing what he should have to adduce before them, that the witnesses could not at all refer to the same horse. The learned council then in succession called a number of witnesses, some of whom had known the horse before it was sold to the plaintiff, and others who had examined it since, and all swore to the absence of the diseases the plaintiff's witnesses had said did exist, and were incurable. The first witness was Mr. Martin Robinson, who resides in the North Riding of Yorkshire, and who deposed that he had

known the horse almost from the time it was foaled; that he bought it of its owner, a neighbour of his, while it was still quite young. He broke it in himself, and kept it for three years, and during that time it certainly exhibited no traces of the diseases the other witnesses have described.

Mr. Thomas Garford, a solicitor, proved that he bought the horse of the last witness in December, 1851, for £63, and sold it afterwards to the defendant for £105. He had no traces of spavin or ringbones then.

Mr. Macaulay, then put in a deposition of Mr. Backhouse, a banker, residing near Darlington, which had been taken in London a short time since in the usual manner, he being about to leave the country. This stated that he purchased the horse of the defendant for £115, and intended to use it as a hack of a superior description. He lived seven or eight miles from his place of business, and he wanted the horse for the purpose of riding over daily. He liked the appearance of the horse, but had some doubts whether it was not a heavier one than he required, and therefore he bargained with the defendant that if it did not suit him he should sell it back to him for £10 less than the original price. It did prove unfitting in this respect for his purposes, and it was returned to the possession of the defendant the day before it was sold by the latter to the plaintiff. Mr. Backhouse altogether denied that the horse exhibited any lameness while in his possession.

A groom of Mr. Backhouse's gave corroborative evidence. He knew what spavin and ringbones were, and the horse exhibited no traces of either disease.

The plaintiff and one of his servants were then called, and they denied as positively as the other witnesses the existence of either disease at the time the horse was sold to Geething. The horse on that particular day was certainly a little lame, but this was caused either by an injury it had sustained in the horse box, or a kick it had received in the stable during the previous night. They varied, however, as to the extent of the injury, one describing it as almost imperceptible, while the other stated the animal was scarcely fit to be shown.

Mr. Reeves also stated that to the best of his belief, the words "particularly with regard to the off hind leg" were not in the warranty he signed at the request of the plaintiff at the time the bargain was concluded.

Mr. John Colton, of North Collingham, proved that he attended the sale of the horse in Newark Market-place, and purchased it on defendant's behalf, without a warranty, for £75.

Mr. Collins, a horse-dealer in a very extensive line of business, proved that he saw and examined the horse at North-

allerton fair, and would gladly have bought it had it been in quite good enough condition—quite fat enough for the London market. He made the defendant an offer for it, if he would keep it for a few days, but he did not accept it; and before any arrangement could be made, the plaintiff bought it. He saw no symptoms of spavin or ringbones. He so liked the horse that he bought it of the defendant at Marlborough, after it had come in the latter's possession at Newark. Then, also, it had not the disease mentioned. It subsequently caught cold, however, and had an attack of inflammation, which nearly proved fatal. It recovered, however, but became a confirmed roarer, and was sold as a carriage horse to Mr. Crawshay, of Caversham Park.

Mr. Macaulay then proved that the present owner had been asked to produce the animal for the inspection of the jury, but had refused, and he called his groom, who had been subpœnaed to attend. He deposed that the horse was at present running with another in a carriage, and was not at all lame. In fact, he was perfectly sound, with the exception that he was a roarer. Witness knew what spavin and ringbones were, and he could confidently say that the horse showed traces of neither disease.

Mr. Kent, of Bristol, a veterinary surgeon of great experience, and one or two other professional men who had examined the horse, since he had been sold by Mr. Collins, gave evidence contradicting Professor Spooner and the witnesses on the plaintiff's side, in a most direct and positive manner. They found but a slight trace of some temporary injury, and not the slightest proofs of either spavin or ringbones. Mr. Kent produced some bones exhibiting the results of the two diseases, and contrasted them with other bones in a natural state. He showed that what was known as ringbones, consisted of a deposition of bony matter in what was naturally a hollow. This deposition having taken place could never be removed, and the animal became incurably lame. It might always be readily discovered, as if no concavity could be discovered by the touch, the disease existed. In the present case he had carefully examined the animal, and found the hollow to exist in a perfectly natural state.

His *lordship*, in summing up the evidence, confessed that he was altogether unable to reconcile evidence so contradictory.

The jury retired to consider their verdict shortly after eight, but after having been locked up for upwards of two hours, it was found they were utterly unable to agree, and they were in consequence discharged without a verdict being arrived at.

COUNTY COURT, MELTON MOWBRAY, *April* 6, 1854.

(*Before John Hildyard, Esq.*)

WRIGHT *v.* EDGSON.

This action was instituted by the plaintiff (a highly respectable farmer and grazier of Sysonby), with a view to convince waggoners that they could not give poisonous substances to their masters' horses with impunity, and to caution them of the dangers resulting from such an absurd practice. The sum claimed was £7, as part of the value of a horse which died on the 4th of March last. The *post mortem* examination clearly showed that the horse died from the effect of some vegetable poison, as the mucous coat of the stomach had a peculiar inflammatory blush. Considerable quantities of black, gritty, and insoluble substances were found accumulated in the cæcum and colon, the mucous coat of which bowels was much thickened, and in such a state of inflammation as caused the death of the animal. The defendant admitted having given the horse *bits of mandrake* (white bryony root), but denied having given him any of the powder which Mr. Wright found concealed in the corn-bin. On testing this powder it yielded anisi seeds, fibrous vegetable matter, which was probably the grated root of the white bryony, and an insoluble sediment, consisting of powdered glass, oyster shell, and a black flinty substance, which were identical with those substances that were found accumulated in the horse's intestines. His Honour found a verdict for the plaintiff, damages £7 ;—£3 14*s.* to be paid forthwith (this sum was due to Edgson for wages), and the balance to be paid by instalments of 5*s.* per month.

We are fully aware of the losses which many agriculturists have sustained through the ignorance of their waggoners, whose credulity leads them to become the dupes of designing knaves,* whose dishonesty, unblushing effrontery, and plausibility, enable them to sell their poisonous compounds, which endanger the safety of valuable horses, and occasionally destroy the life of the animal, thereby injuring the character of agricultural servants, and depriving them of their hard earned wages.

*** Dear Sir,—My object in sending you this communication

* Edgson stated before his honour, that he bought the powder of some man in Nottingham market, which might be the fact, as we have no lack of nostrum-vendors in most country markets.

is to give publicity to this novel action, in order that credulous waggoners may be made acquainted with the dangers that beset them if they should persist in giving poisonous substances to their masters' horses. The *laws of equity* hold them responsible for poisoning horses ignorantly, while our *criminal code* awards them severe punishment if they should do it maliciously. Would it not be far better for waggoners if they would obey their masters, and learn the simple fact of keeping horses in better working condition by good food and attention, than for them to imagine that they can improve condition by disordering the horses' stomachs and bowels with poisonous substances?

Dear Sir,

Yours faithfully,

SAML. BROWN.

MELTON MOWBRAY; *April* 14, 1854.

COUNTY COURT, SKIPTON, *April* 7, 1854.

(*Before Edward Cooke, Esq., Judge.*)

WARD *v.* SMITH.

Mr. Brown, of Skipton, appeared for the plaintiff; and *Mr. Gaunt*, of Bradford, for the defendant.

Mr. Brown stated the plaintiff's case. The plaintiff resides at Carlton near Skipton, and the defendant at Bradford.

The action is brought for the breach of warranty of a cow, purchased on the 28th of January last, by the plaintiff of the defendant, which had been so bought unseen on the strength of defendant's representations that she was all right and would do plaintiff some good. The cow was delivered on the 31st of January last to the plaintiff, at Cononley, about one mile and a half from Carlton, having been brought to that place by railway; the plaintiff had great difficulty in driving the cow to Carlton, she being unable to walk; on the plaintiff paying for the cow the same night, he remarked to defendant the difficulty he had in driving her, when defendant said she was poor and weak.

The plaintiff kept the cow well, but she never throve after he got her.

On the 4th March the plaintiff wrote defendant respecting the cow; the defendant came to plaintiff's on the 10th

March, and staid until next day, when the cow died. The cow was to calve about the time she died.

The plaintiff had a *post mortem* examination of the cow made by Mr. Varley, veterinary surgeon, when it was discovered that she was unsound, and had been so for some time past before the sale to the plaintiff, who now sought to recover the price he paid for the cow, 10*l.* 5*s.*, and 15*s.* expenses of her keep.

Mr. Ward, the plaintiff, was examined in support of his case, who stated that the defendant and he were friends. That on Saturday, the 28th January last, the defendant was at his house, and then stated that he had a poor cow which he would sell him, and she would do him some good, and he would warrant her all right. Plaintiff's wife bought the cow for 10*l.* 5*s.*, to be delivered at Carlton. The cow was delivered at Cononley, about one mile and a half from Carlton, on the 31st of January; the plaintiff had great difficulty to drive her that distance. About the 4th March the plaintiff sent a letter to defendant that the cow was unwell. Defendant came over to Carlton on the 10th March, and staid all night at plaintiff's, and also next day, when the cow died; the cow had shewn signs of calving before she died and plaintiff had experienced persons to assist him. Plaintiff sent for Mr. Varley, the veterinary surgeon, Skipton, to open and examine the cow.

The plaintiff was corroborated by the evidence of other witnesses as to the expressions used by the defendant, of the cow being a poor one, but all right and sound, and as to the proper treatment which the cow received.

Mr. Wm Varley, of Skipton, M.R.C.V.S., on the 11th March last made a *post mortem* examination of the cow in question; had not seen her before—plaintiff and defendant both present; found stricture of the neck of the calf bed, and two full grown calves; also found that there had been a rupture of the diaphragm, and that a portion of the recticulum had passed through into the chest, and had become attached to the right lung: this would interfere with the functions of the animal and rendered her unsound; the rupture had been in existence previous to the sale to plaintiff.

Cross-examined by *Mr. Gaunt*. If the animal had been in a sound state it would not have been difficult to have delivered the animal.

Mr. Gaunt, for the defendant, then addressed the judge, saying that he was instructed to say that the cow was never warranted, and that the plaintiff had neglected to attend properly to her on her attempting to calve.

John Smith, the defendant, was examined, who denied that he had warranted the cow, and stated that she belonged to a Mr. Carr.

Mr. Carr proved that he had bought the cow the Thursday before defendant sold her for 8*l.* 5*s.* without any warranty; that the cow was hearty with him.

Joseph Shaw proved that he bred the cow, that he had sold her to Mr. Carr, and that she never ailed anything whilst with him, but that the cow was very poor.

Mr. Drake, of Bradford, veterinary surgeon, was of opinion, from what he had heard, that the cow might have been delivered of the calves, and that he thought the rupture spoken of by Mr. Varley could not have existed for any length of time; if so, the cow would have died; it would have produced inflammation: thought it had only been done a few days before she died.

Cross-examined by *Mr. Brown*. A person who understood his profession could not make a mistake as to the length of time the injury had been done. Witness is not a member of the College of Veterinary Surgeons.

Mr. Brown was about to reply on the defendant's case, when

The *Judge* gave a verdict for the plaintiff for 10*l.* 5*s.* Advocates' fee and costs of witnesses allowed.

Foreign Department.

ON THE FUNCTIONS OF THE GUTTURAL POUCHES OF SOLIPEDES.

Under this title M. Perosino, Professor at the Veterinary School of Turin, has made the readers of the Italian Veterinary Journal (Giornale di Veterinaria, &c.), acquainted with the results of his experimental inquiries into the use of the guttural pouches in horses, which have led him to make the following propositions:—

1. (Their epithelium being susceptible of vibration twenty-six hours after the death of the animal,) are they the means of protecting the function of hearing? *i. e*, a simple modification of the Eustachian tube, rendered necessary by the rapidity of the pace, serving also to recruit the air within the inclosure of the tympanum, and to equalize the pressure of the column of air rushing upon its membrane through the

meatus auditorius externus? (according to Lavocat, Guril, Lugh, Graf, &c.)

2. Do they serve the purpose of phonation by perfecting the winnowing after the manner of the lateral ventricles of the larynx? (according to Giraud, Mangolio, Lavocat, &c.)

3. Have they uses as yet undiscovered connected with respiration?—uses, the end of which we suppose to be to impress upon the air, with which they are always filled, and which they alternately dislodge—some fresh modification? (according to my master, Professor Patillani, whose memoir I shall never forget.)

4. Do we think that, by their situation, they may serve to cause a deviation and diminution of the force of the aërial column requisite to horses in rapid courses, or to break too violent shocks of it, at the time, against the bronchial tubes and walls of the pulmonary cells? (according to Professor Bossi.)

5. Or do they regulate the admission of air into the thorax, almost instantaneously change the temperature of it, break its first rush, moderate its violence, and modify its crudity, and so temper and make respirable the air entering the lungs? (Daniele Bertucchi.)

After having shown the differences existing between the guttural pouches in the ass and mule, differences which are next to none, or very high when compared with those of the horse, M. Perosino entertained serious doubts on the influence these organs exercise, either directly or indirectly, with the function of winnowing. He relates numerous and varied experiments, from which it evidently results that these pouches become dilated during expiration, but return to their normal dimensions during inspiration, contrary to what is generally represented. He also asserts, that in the many horses he has suffocated by hermetically closing their nostrils, he has uniformly found the guttural pouches enormously distended with air. From these facts, and a simple experiment he has made by the introduction into the cavity of a glass tube with alcohol in it, he has come to the conclusion that, so far from the pouches having anything to do with inspiration, their function is intimately connected with expiration; and he compares them with the vast and voluminous receptacle communicating with the trachea in the cassowary of New Holland, and better still with the membranous sac of the antilope, particularly that of the reindeer, which is situated between the epiglottis and the thyroid cartilage, and destined, according to Carus, to satisfy the craving demands of respiration exhibited by these animals in

the course. "It was my endeavour," says M. Perosino, in conclusion, "to explain the final design of these organs, in assigning to them that of becoming charged with air, which, conveyed to the small part of the throat, mixes them with a column of fresh inspired air; in which manner the air becomes tempered, which, through agitation and shortness of respiration in violent courses, would have been abundant into the lungs, and along with it too large a portion of oxygen."

We shall not regret this new theory, the hypothesis of M. Perosino: we accept it, but under favour of the inventor, since as yet it has not undergone sufficient proof. Still, in awaiting more positive demonstration, and without inclining in favour of one or the other opinion of the authors cited by Perosino, we look upon these cavities as simple reservoirs for air in direct communication with the exterior for the recruitment of the air; also performing the office of elastic cushions, upon which the oscillations of the head upon the neck are deadened or deprived of their violence.—*Rév. de Méd. Vét., de Decemb.*, 1853.

RESEARCHES AND DISCUSSIONS ON THE SPAYING OR CASTRATION OF COWS.

By M. Pierre Charlier, V.S., at Reims.

(*Continued from p.* 233.)

This second part of M. Charlier's paper commences with an account of the cases in support of what he has already advanced, in which he shows, by proof positive, that in spite of the doubts and contrary assertions expressed, it remains for certain that spaying has the effect of prolonging the milking period, as well as of augmenting the annual supply of milk. From this he proceeds to show that,

2dly. Castration favours the fattening of cows.

M. Magne, in his *Traité d'Hygiène Vétérinaire Appliquée*, gives us a reason for this: "If cow's flesh," he says, "is in little estimation, that depends mostly on their not being fatted until they have grown old and have left off yielding milk." And further on he adds—"Cows which give no milk, providing they be well fed, have their genital organs in a condition excited and ready for the male, and at this time become fat with difficulty." Hence arises the bad odour their meat acquires at the butchery, where *all cows are reckoned oxen*. If they

were castrated it would not be so, since that would destroy the more powerful influence against their fattening. By such a practice there would be no need of working young oxen up to the moment of their being put up to fatten. By aid of castration the cow as well would come in, and yield both milk and fat. Thus would the price of meat become lowered in the market. Contradicting the common assertion that castration is not favourable to fattening, and that it is physiologically impossible to obtain, at the same time, milk and meat from a cow who has undergone such an operation. Observation daily shows the contrary of this.

In regard to the observation that castration detracts from consumption, by lessening the number of calves; and that it detracts also from the reproduction of the species. If calves produced by persons who keep cows for milking purposes were made fat before they were sold to the butcher, I could not deny that this was true; but when one comes to know the fact that, in general these productions are disposed of *à vil prix*, in despite of the law, almost immediately after they are dropped, to the country butchers or others, to be food for classes not so well off, we are led to think otherwise. So that, in point of fact, castration does not so much harm to the propagation of the species, but rather contributes, in stopping bad cows from breeding, to our advantage. Nor can I comprehend how such an objection can be raised, when every day we behold, at the butchery, an immense number of cows in calf.

(*To be continued.*)

ON THE TYPHOID DISEASES WHICH ATTACK ESPECIALLY THE HORSES OF THE ARMY.

By M. Liautard, V.S., at Bruisne.

According to M. Liautard, typhoid fever is a frequent disease among domestic animals. "We observe it," says this author, "under the same conditions as we do the typhoid fever so prevalent in men." Thus, in 1846, he saw this disease raging, at the same time, among the men and animals inhabiting the garrisons of Mustapha and Hupein, in Africa.

Typhoid affections in animals may present differences in their mode of exterior manifestations; but, in the opinion of Liautard, they constitute, in reality, but one and the

same disease, ever identical in form—"primitive alteration in the blood," and in essential anatomical lesions; modification, more or less intense, but constant, in the mucous follicles of the intestines.

In order to facilitate the study of these diseases, M. Liautard follows the example of human pathology in arranging typhoid fever in three forms: 1. The Pectoral Form; 2. The Cerebral Form; 3. The Abdominal Form.

"The Pectoral Form confounded," says M. Liautard, "with gastro-pneumonia, entero-pneumonia, pneumonia, typhoid-pleuro-pneumonia, prevails most commonly among troop horses. The period of its setting in is denoted by general prostration, by embarrassment in progression, and by great sensibility over the dorso-lumbar region."

At the commencement—"the countenance is anxious, the eyes tearful; spasms agitate the lips and nostrils; the flanks draw themselves up and are quick in their motions; obstinate constipation; painful urination; conjunctivæ injected; mouth hot and dry; pulse full, strong, and vibrating; cough soft, deep, and painful; auscultation bronchial, strongly augmented; the blood is brownish, and appears syrupy, readily coagulating; two parts of the clot separated by a diffuse line of demarcation; the fibrine being remarkable for its brownish cast.

At the period these symptoms are at their height, the dorso-lumbar region becomes insensible, and this sudden transition from great sensibility to complete insensibility, denotes an alarming stupor. The urine becomes sanguinolent, the skin hot, the eyes startling, the conjunctivæ covered with petechiæ. In auscultation a râle is heard. The blood coagulates more slowly; the buffy coat is less abundant; the serum has the aspect of a limpid syrup.

At the period of decline, the prostration of strength is extreme; the pulse becoming imperceptible. The animal appears sinking; the conjunctivæ turn a yellowish red; petechiæ, when present, grow deeper; the flanks grow quieter in their beatings; the patient is continually camping himself (trying to stale), making each time, but with difficulty, a small quantity of bloody urine; the mouth is dry; the tongue red along its borders; heat leaves his extremities; the fæcal matters issue a repulsive odour; each respiration is marked by an anxious sigh; the patient lies down, rises precipitately, and knocks his head against the manger, at last falls and dies.

Should the typhoid disease have a happy termination, diarrhœa declares itself; the adynamic condition disappears;

the pulse rises; sensibility returns to the vertebral column; the expulsion of urine is less frequent and less painful.

The Cerebral Form of disease constitutes most commonly the second stage, or that in which confirmed typhoid disease sets in in the epizootic form.

The Abdominal Form is that which goes by the names of *enteritis*, *gastro-enteritis*, *entero-hepatitis*, *entero-peritonitis*, &c.

The Principal Morbid Lesions, which numerous autopsies have shown to exist, are—the presence of numerous petechiæ upon the costal and pulmonary pleuræ. The parietes of the heart, and the mucous surface of the intestines. These ecchymotic spots occupy a large space in the anatomical pathology of Liautard. The laryngeal membrane is likewise sewn with ulcerations. The liver is gorged with blood, and *parboiled*, as it were. The spleen offers the same change of texture. The brain is covered with petechiæ, and throughout the cerebro-spinal system is met with vascular arborizations and bloody extravasations. The same alterations beset the surface of the bladder, the muscles, the cellular tissue, and the lymphatic glands.—*Réc. de Méd. Vét., Jan.*, 1854.

Home Department.

GLANDERS AND FARCY (OR NOT)?

A horse was purchased by a farmer in this neighbourhood a short time since; a week after he was taken from his work by a police constable, pronounced glandered by a veterinary surgeon, and immediately shot. The farmer had six other horses, very poor beasts. A fortnight after the admission of this supposed glandered horse, one of these six was taken ill, and died in about forty-eight hours. Six days after this another was taken ill, and died in about seven or eight days. Another was next ill, and died in the same space of time. These three horses died within three weeks from the time of the newly-purchased animal coming on to the farm. I did not see these three horses alive, but received information from the farmer and horse-keeper, as follows:—The first horse came home from his work exhausted (for two days previously he had been dull, and appetite bad, the mouth filled with saliva), the legs trembled, and would hardly support the body. There was "choking cough," and much discharge of

mucus from the nostrils. Next day the animal was down and unable to rise, and in forty-eight hours died, apparently suffocated. A second horse was dull, and off his appetite; a number of small tumours showed themselves on different parts of the body; these remained about thirty hours, and then disappeared, and a sore choking cough commenced, followed shortly afterwards by perfect discharge of mucus from the nose. In forty-eight hours, with the mucus, there was mixed much matter of a highly offensive character; this horse died in four days, having the same symptoms as case the first. In a few days a third died under similar circumstances. I was now called in to see the three remaining horses. Two of them had a number of small, hard, superficial tumours variously disposed over the body; some of these tumours disappearing, others partially suppurating, discharging matter of a dark colour. The submaxillary lymphatic glands of one horse tumefied, from which a chain of small tumours crossed the jaw, and proceeded to the corner of the mouth; appetite pretty good. In six days no trace of tumours remained. The animals are losing flesh surprisingly fast; their appetites are pretty good; two of them are affected with a sore choking cough; there is profuse discharge from the nostrils, emitting a most horrible stench; there is no tumefaction between the jaws and about the throat; but there is extreme hardness of the muscles about the neck and shoulders; the legs of one horse are much swollen, and tender. To-day (March 20th) I again saw my patients (being a fortnight since my first visit). One animal was down, and unable to rise without assistance; the hind extremities seemed partially paralysed, and a profuse discharge of a dirty white colour, mixed with blood, came from the nostrils; the mucous membrane of the eyes was pale, the appetite bad; the stench from the stable is most horrible; twenty carcases in a high state of putrefaction could not be worse. The lives of these two horses will certainly not be prolonged more than two days; one I thought would have died from suffocation in my presence. One horse now only remains to be described. Tumours, as before noticed, have shown themselves about him; there is profuse discharge from the nostrils, and sore choking cough, and extreme hardness of the muscles of the neck and shoulders; the appetite is good. Now, is this, or not, glanders? The newly-purchased animal was pronounced glandered by a veterinary surgeon. Another veterinary surgeon, who attended the horse whilst in the possession of his former owner, says he was not glandered. Mr. S. has, I understand, given, as his opinion, that glanders cannot

be produced in so short a time as a fortnight; and that death cannot take place in so short a time as in the horses just described. This circumstance is creating much interest in this neighbourhood. The purchaser of the supposed glandered horse has brought an action against the seller for damages sustained. From what I have stated, will you be kind enough to inform me if these horses were glandered? Could glanders be produced in so short a time as a fortnight? And also be kind enough to inform me the characteristics necessary to distinguish glanders in an acute and chronic form.—T. S., V. S., Saffron Walden.

[The above account is extracted from '*The North British Agriculturist*,' and the following is the answer given to it.]

The most unequivocal and unmistakeable symptom of glanders is ulceration of the mucous membrane inside the nose, and a profuse discharge of yellowish green, somewhat thin, and highly tenacious or sticky matter. We believe that no precise time can be assigned within which this disease may appear after its exciting cause has operated. We have known cases where glanders has begun and attained a highly aggravated form within a week; and other instances occasionally come under the notice of the veterinarian where the cause (such as contagion, for instance,) has been known to act and excite the disease within a fortnight. Supposing, then, the purchased horse above mentioned to have been glandered, there is not anything in regard to the time within which the subsequent cases occurred, to render it in the slightest degree improbable that they caught the disease and died of glanders. No mention is made of ulceration, nor is there any mention of this symptom being looked for, so it may have been present. Then, again, the fact of suppurating tumours occurring in different parts of the body, renders it almost certain that *farcy* existed, and every practitioner is aware that farcy is a disease which differs from glanders in *degree* rather than in *kind*. The whole catalogue of symptoms above given is so characteristic of glanders, and so inapplicable to any other ordinary disease, as to induce our belief that glanders, in an acute form, was the cause of death in these cases. Acute glanders is characterised by a speedy loss of condition, and great loss of strength. There is always extensive ulceration of the nasal membrane, and a profuse discharge of thin, greenish, and sticky matter from the nostrils. The glands under the jaw are swollen and knotty; lumps are frequently found arranged in lines along the skin *(farcy)*, especially inside the thighs, over the jaw, and along the sides of the neck. The throat is also often ulcerated,

and on this account a suffocative cough is frequently present. This form of disease may be produced by contagion, or may follow other diseases which have greatly wasted the system, and will sometimes run its course in so short a time as a week, ten days, or a fortnight. Chronic glanders may exist for many weeks without any ulceration being apparent: the matter is small in quantity, and it often comes from the left nostril only; the appetite is little affected, the condition but slightly impaired, and there may not be any cough. The disease may continue for months; some say for years. We have known cases remain for six months without much change. When matter of a sticky quality, thin, and of a rather green hue, comes from the left nostril of a horse for weeks successively, it is always a suspicious circumstance. The animal should be carefully isolated from other horses. The farmer must not tamper in the way of doctoring, but a veterinary surgeon of great experience should be consulted. No cure for glanders is known.

*** This latter (editorial) statement, intended as a paraphrase to the former or original account, would leave no doubt on the nature of the disease, could it be received. But the naked cases themselves, loosely and imperfectly narrated as they stand, admit of room for dispute as to the real or genuine species of disease they are intended to represent.—Ed. '*Vet.*'

ANOTHER INSTITUTE IN THE SAME SQUARE!!!

You were very right, Mr. Editor, in objecting to the term *Institute*, as any one may see by reference to the case of the Belgian girl. Mr. Parry, in court, speaking of his employers, the Association for the Protection of Females, in *Red Lion-square*, makes use of the term the 'Institute.'

An Observer.

ON ANIMAL PHYSIOLOGY. BREEDING FARM STOCK.

By E. J. Lance, Bagshot.

On the occasion of a sale of short-horn stock, in Hants, which I reported in April last, I was led to make some remarks on the principles which appear to guide nature in the production of healthy offspring: since then I have been asked for the data on which I found the argument, viz., that

consanguinity in blood amongst parents, leads to degeneracy in the offspring; for this has been denied with respect to the breeding of sheep—particularly by the success of Mr. V. Barford, near Towcester, Northamptonshire, who has retained the same breed for many years. Mr. S. F. Anderson, of Rutlandshire, has said,—"Mr. Barford's sheep are bred in-and-in by art, whilst the white-breed of cattle in Chillingham Park have, for more than 1000 years, been bred by nature; and deer in a park have for ages bred in-and-in. Surely, then, when it is beyond dispute that all these possess the stamina, size, and constitution of their original creation, the opponents of Mr. Barford's system must have stronger grounds for declaiming against it than any hitherto attempted to be substantiated."

By judicious selections of healthy and well-formed animals, varieties are obtained. Mr. Barford's breed are acknowledged to be a very small race; and in those cases where close affinities have been brought together, and the offspring are defective in any point, they are fattened and killed, and hence would not be allowed to breed.

It is only the very best that are allowed to continue the race. The wild male animals alluded to, are known to roam to a great distance for strange females, particularly the buck, and will not couple with his own associates. Man, in the wild states of New Holland, steals his female from another tribe at night.

The principal authority I have for what has been said by me, is from my own experience, and the lectures of W. Lawrance, before the Royal College of Surgeons, in 1819. In describing varieties of animals, Mr. Lawrance says, any variety of form may be continued:—"A breed of sheep, with an extraordinary number of horns, as three or five (*ovis polycerata*), occurs in Iceland, and is accounted a mere variety."

"A breed of sheep was lately produced in America, the origin and establishment of which confirm the positions already brought forward. A ewe produced a male lamb of singular proportions and appearance; his offspring, by other ewes, had, in many instances, the same characters with himself.

"These were, shortness of the limbs and length of the body, so that the breed was called the otter breed, from being compared to that animal. The fore-legs were also crooked, so as to give them in one part the appearance of an elbow; hence the name 'ancon' was given to this kind of sheep. They were propagated in consequence of being less able to jump over fences. They can neither run nor jump

like other sheep. They are more infirm in their organic construction, as well as more awkward in their gait, having their fore-legs always crooked, and their feet turned inwards when they walk.

"When both parents are of the other or ancon breed, their descendants inherit their peculiar appearance and proportions of form, with very rare exceptions.

"When an ancon ewe is impregnated by a common ram, the increase resembles wholly either the ewe or the ram. The increase of a common ewe, impregnated by an ancon ram, follows entirely the one or the other, without blending any of the distinguishing and essential peculiarities of both.

"Frequent instances have happened where common ewes have had twins by ancon rams, when one exhibited the complete marks and features of the ewe, the other of the ram. The contrast has been rendered singularly striking when one short-legged and one long-legged lamb, produced at a birth, have been seen sucking the dam at the same time.

"The formation of new varieties, by breeding from individuals in whom the desired properties exist in the greatest degree, is seen much more distinctly in our domestic animals than in our own species, since the former are entirely in our power. The great object is to preserve the race pure, by selecting for propagation the animals most conspicuous for the size, colour, form, proportion, or any other property we may fix on, and exclude all others. In this way we may gain sheep valuable for their fleece, or for their carcass, large or small, with thick or thin legs—just such, in short, as we choose, within certain limits.

"The hereditary transmission of physical and moral qualities, so well understood and familiarly acted on in the domestic animals, is equally true of man. A superior breed of human beings could only be produced by selections and exclusions similar to those so successfully employed in rearing our more valuable animals. Yet, in the human species, where the object is of such consequence, the principle is almost entirely overlooked. Hence all the native deformities of mind and body which spring up so plentifully in our artificial mode of life are handed down to posterity, and tend, by their multiplication and extension, to degrade the race. Consequently the mass of the population in our large cities will not bear a comparison with that of savage nations, in which, if imperfect or deformed individuals should survive the hardships of their first rearing, they are prevented, by the kind of aversion they inspire, from propagating their deformities.

"This inattention to breed is not, however, of so much consequence in the people as in the rulers—in those to whom the destinies of nations are intrusted, on whose qualities and actions depend the present and future happiness of millions. Here, unfortunately, the evil is at its height; laws, customs, prejudices, pride, bigotry, confine them to intermarriages with each other, and thus degradation of race is added to all the pernicious influences inseparable from such exalted stations. What result should we expect if a breeder of horses or dogs were restricted in his choice to some ten or twenty families taken at random? if he could not step out of this little circle to select finely-formed or high-spirited individuals, how long a time would elapse before the fatal effects of this in-breeding would be conspicuous in the degeneracy of the descendants? *The strongest illustration of these principles will be found in the present state of many royal houses in Europe:* the evil must be progressive, if the same course of proceeding be continued."

I shall cite a single example to prove what will, to most persons, seem unnecessary, namely, that mental defects are propagated as well as corporeal.

"We know," says Haller, "a very remarkable instance of two noble females, who got husbands on account of their wealth, although they were nearly idiots, and from whom this mental defect has extended for a century into several families, so that some of all their descendants still continue idiots in the fourth, and even in the fifth generation."

Thus do the lectures of Mr. Lawrance bear out my published observations,—that the weakness of nerve and malformations arise from a too close affinity of blood. A few years ago, when I was in Wiltshire, in the course of conversation with some sheep breeders there, on the cause of silly sheep ("podderish, or water-headed"), they remarked that breeders in that part were well satisfied that it was caused by breeding in too close relationship.

It is a false notion that some farmers have, that the giddy sheep is caused by peculiar food, or that it is a worm in the head. The disease of flounder in the liver is not created by peculiar food, but it is hereditary, the germ of life being brought into active vitality from peculiar damp air and food.

Mr. Lawrance says, in the 6th chap., that in-breeding will bring into activity peculiar diseases in pigs and other animals.—"The domestic sow produces young twice a-year; the wild animal only once. The former frequently brings forth monstrous fœtuses, which are unknown in the latter. Our pigs, too, are invaded by a new kind of hydatids, dispersed

through the substance of all the organs, constituting what is called the measles in pork. The creation of these must be referred to an epocha posterior to that of the species in which they are found, as they do not exist in its natural wild state.

For further information on this disease in the domestic pig, consult the works of Blumenbach, who has given magnified views of the animalculæ.

My experience for the last thirty years has proved the statement given in my last article on this subject, and confirmed by the breeding experiments of Mr. Marsh, of Rytan, Northumberland, who gave me a very vivid description at the Newcastle-on-Tyne Agricultural show, in the year 1846, of his having put a son to his mother in the production of pigs, and the appalling malformation — the result of such connection. I had previously been confirmed in my view of such improper connection by Mr. Edward Owen, of Lewisham, in the year 1830; and for years previous to that period I had observed that, if it was not proper offspring from the same parents should be connected in marriage, neither ought the offspring from two brothers or two sisters. My views on this subject were published in the year 1832, in 'Baxter's Library of Agricultural Knowledge," under the head Cattle, Sheep, and their Diseases. In this same work appears Mr. Ellman's Observation on Sheep Breeding, who says, "Be not too partial to your own sheep, as it has operated much in preventing many from making improvements in their flocks; save your rams from the cross of a hired ram superior to your own. In no case should ewes be used for breeding that possess any hereditary disease; without due attention to avoiding disease, it will increase in the progeny."

Sir John Sinclair gave much attention to breeding animals; in his work are the following remarks on breeding *in-and-in*, or putting animal of near relationship together:— "If the system be followed up, the stock gets tender and delicate, and though they may retain their shape and beauty, they will decrease in size, constitution, and activity; will become lean and dwarfish, and ultimately be unable to continue the race. The instances of this are numerous. The celebrated breeder, Princep, found the decrease in size unavoidable, and in spite of all his endeavours, by keeping his stock well, to prevent it. This, among many other instances which we could mention, were it necessary, proves how unprofitable such connections are. It has been remarked that those farmers have in general the worst flocks who breed from rams produced on their own farms, and that an interchange of males is mutually beneficial.

This principle of breeding and improving breeds, as well retaining varieties, have been carried out with success in many instances. At the present time there is a great rage for improving our domestic poultry; by judicious selections any variety may be retained by exclusion of other varieties; but this must be done by excluding the offspring from the parents, by a management of shifting and changing, retaining desired qualities. The varied forms of domestic poultry are but varieties of the same breed, by exclusion of others. Thus we have the Cochin China fowl, very distinct to the five-clawed feather-legged Bantam. Mr. Lawrance has remarked on the very varied forms in different countries that there is the rumpless fowl (*gallus ecandatus*), of Virginia, which has undoubtedly descended from the English breed. In different situations the fowl runs into every conceivable variety. Some are large, some small, some tall, others dwarfish; and in the same way the comb varies, as well as the tufts of feathers on the head. Some fowls have no tails, others very fine ones; the legs may be yellow and naked, and others covered with feathers. There is a breed with the feathers reversed in their direction all over the body; and another, in India, with white downy feathers and black skin; and all these show endless diversities of colour, each country and period having a fashion or predilection for colour or form. These varieties are but the effects of selections and exclusions, preventing those from breeding which are not desirable, in the same way that a breeder of sheep obtains a name for a particular variety.

The fine distinction of nervous defects are best shown in peculiarities of the human species. To describe which and what I can remember on this subject, I must go back to my school-boy days; but, before I leave the subject of fowl breeding, I may mention the result of an exclusive rearing of a white breed of fowls, by a party at Farrington, in Hampshire, in an endeavour to procure the pure white; the blood relationship was retained for many years, until a diminutive race was produced, with excrescences on various parts of the head and body: a great want of nervous energy and backwardness of growth was the result. When this race was crossed with others, and with the large China breed, the improvement was very conspicuous, for the chickens of the same age became double the size of the original white breed, and were very soon made ready for the market. Thus, may an attention to poultry rearing be made a profitable employ for the farmer's family, many of whom have, of late years, considered domestic poultry as beneath their notice.

It has now become more fashionable, since the Queen has her poultry yard and Cochin China breed at the royal farms of Windsor Park.

I would show the melancholy effects of this in-breeding amongst the human species, and call to remembrance that, when a boy at school, I do remember the offspring of blood relations being so weak in nervous energy that two youths were sent from school some time before the other boys, because they should not be teased and made the butt of their more energetic schoolfellows. The blood connections are oftentimes promoted for the purpose of retaining property in families, which as often frustrates the object, by producing short-lived offsprings or deficient intellect for the enjoyment of the property, or the race not continued beyond one generation. I have known many such connexions that have not produced any progeny; at other times some of the offspring have been complete idiots, (as with a family at Sydenham, twenty-five years ago, when I there saw three idiots kept in a cottage away from their more sane relations). Sometimes the offspring will be possessed of a precocity of talent in one direction, and be very short lived. On the occasion of my witnessing a marriage between two cousins at Bridgnorth, in Kent, about 25 years ago, and making some remarks thereon to a farmer's wife in the village, she said I was perfectly correct, for she herself was the offspring of first cousins, and had never been strong enough to bear a child; and, as to her brother, he had never been able to do anything for himself all his life time.

Mr. Lawrance, in one of his lectures, has said, the deficiency of nervous energy may not at first seem to show itself in a generation of offspring from blood relations; the defect is not lost, but is shown in the second, third, or fourth generation, when the cause of the defect is lost and wrapped in mystery.

It will be for farmers and the public to choose for themselves, whether they will adopt the in-breeding practices of Mr. Barford, or bow to the reasonings, the experience of ages, and those physiologists who have made the animal diseases and defects, and economy of nature, their study throughout a life of close application to the subject.—*E. J. Lance, Farmer's Herald.*

HOW TO CHOOSE A GOOD MILCH COW.

By J. H. Magne.

Translated by Mr. Huxton.

BREED AND DESCENT.

1. *Breed.*—We find good milkers in all breeds, but they are rare in some, and very common in others. It could not be otherwise. Milking properties, depending on the conditions which determine the formation of the breeds, are due partly to the climate, the soil, the air, and the plants of the countries where the breeds have originated; and must, therefore, vary in our different breeds of horned cattle with the hygienic conditions peculiar to each locality.

Milkers, and more especially animals intended for breeding, must always be selected among breeds celebrated for abundance of milk. Not that we can hope to import into our departments, with a dry and warm climate, all the qualities of the excellent milking breeds possessed by countries in which the soil is fertile, the air moist, and the sky cloudy; but, as the influence of climate, though very marked, take effect only in the long-run, the properties of the animals imported are maintained—though subject, doubtless, to gradual deterioration—during a period which varies with the precautions taken to preserve them; and for several generations the descendants of the individuals of a good imported breed give more milk than individuals belonging to a breed formed on the spot, when hygienic circumstances are not favorable to milking properties.

It is not to be forgotten, moreover, that under the influence of particular circumstances, which it is sometimes impossible to call into existence, animals manifest properties which we cannot produce directly. This explains why it is often more advantageous to import qualities possessed by foreign stock, than to try to develop them in native stock.

Here we deem it sufficient to observe, that good milking breeds are distinguished by a soft and supple skin, and by tissues rather relaxed than rigid; are not hardy or fit to bear fatigue (sweating easily, and falling rapidly off when put to work); are difficult to keep, seldom fat, and have often little flesh on the buttocks.

2. *Descent.*—As milking qualities are, in a great measure, dependent on structure and temperament, which are more or less hereditary, descent exercises a great influence.

In each breed, therefore, we should choose individuals belonging to the best stocks, and the offspring of parents

remarkable for their milking qualities; for it is certain that good milk cows produce others which resemble them.

It should be our object, then, as far as possible, to obtain cows engendered by youngish bulls, whatever be the race to which they belong.

But it is, especially, when selecting stock for the purpose of breeding milk cows, that particular care should be taken to select individuals belonging to good families. A cow of a good milking family, or even breed, may occasionally be an excellent milker, and more than this is not wanted when it is not meant to breed from her. The same cannot be said when breeding is intended, because there would be little chance of her transmitting the accidental or exceptional qualities possessed by her; whereas the qualities forming the fixed and constant characters of the stock would, almost to a certainty, be transmitted to descendants.

These remarks with regard to breed and parentage, apply to the selection of the bull, which, as experience demonstrates, acts, like the cow, in transmitting the milking qualities which distinguish the breed and stock.

DIGESTIVE AND RESPIRATORY ORGANS.

1. *Digestive Organs.*—These organs have a powerful influence on the exercise of all the functions, and particularly on the secretion of the milky glands. Where the digestive organs are defective, good milk cows are rarely met with.

A good state of the digestive organs is evinced by the following particulars:

A belly of moderate size, with yielding sides, free from tightness; in aged beasts, the belly is often large, though the organs which it contains are in good condition;

A large mouth, thick and strong lips;

A good appetite, easy and quick digestion;

Glossy hair, supple skin, with a kind of unctuous feel.

Animals possessing these anatomical and physiological properties, eat well, drink much, and if they are properly fed, and not over-worked, make much blood, and yield large quantities of milk.

2. *Respiratory Organs.*—The respiratory organs complete the system of nutrition. The object of the lungs is to bring the substance furnished by the food into contact with the air, and make it capable of nourishing; they digest air as the stomach digests food. Hence a good form and a healthy condition of the organs of the chest are necessary to the production of much milk.

Their ability to fulfil their functions is evinced—when they

are large, and lodged in a spacious cavity; in other words, when the chest is wide, deep, and prominent—when the ribs are long, and strongly arched throughout their whole length, and more especially at the upper extremity—when the withers are thick, and the brisket rounded behind the shoulder and elbow—when the spine is long, straight, horizontal, not saddle-backed, and the loins are wide—when the nostrils are large, dilated, and well opened—when the air is enhaled without any appearance of hurry, and exhaled from the chest in great puffs.

The movements of the flanks are free, easy, and extensive, in beasts which breathe well.

These properties of the digestive and respiratory organs indicate that digestion and respiration, being well performed, furnish an abundant and rich blood; all the organs being in a state of activity favourable for the exercise of their functions. Animals combining these properties in full vigour, are capable either of performing much work, or fattening rapidly, or giving much milk, according to the predominance either of the powers of motion, viz., the bones or muscles; or of the nutritive system, viz., the cellular and adipose tissues; or of the organs for providing milk, viz., the glands giving milky secretions, and the milk vessels.

SHAPE, CONSTITUTION, FEATURES, TEMPERAMENT, COLOUR.

1. *Shape*—Active mammary glands are seldom found united with the graceful, rounded forms which constitute what is vulgarly called *beauty* in quadrupeds. Most frequently good milkers have sharp points, and appear more or less loose and flabby. In regard to bony structure, they may be as well formed as cows remarkable for their readiness to fatten, or ability to work; but, being seldom in plump condition, they seem lean and raw-boned.

Hence, when a herd of cows have all been fed and kept in the same way, it would not be proper to fix upon the most beautiful as the best milkers. In so doing, we should be almost invariably mistaken. In the hind quarters, there is often something defective in regard to form: they are largely developed, but the flesh is not in proportion to the bone, and the bony protuberances are very visible; the haunches stick out, and the pelvis is wide; the legs, standing far apart, leave a considerable space as a receptacle for large milk vessels.

The blood flows in great abundance to the milky glands, and keeps them in activity at the expense of the other organs;

the muscles are slender, and the buttocks and thighs small and narrow.

The cows we recommend as milkers are those whose chine, instead of being all of one piece, shows, towards its centre, a space occupied by a kind of shrivelling, the effect of the distance between the spinous processes of the vertebræ: the process of the last dorsal vertebræ is strongly bent forward.

In some cows we have observed that this distinguishing mark is owing to the processes of the last dorsal vertebræ being shorter than those of the preceding vertebræ. In that case, the back has, at its middle, instead of a wrinkled or shrivelled part, a depression which is continued to the rump.

When this mark exists, the chine is often double in its posterior half; the ridge of the vertebræ is large and wide, and seems forked, and a slight depression prevails along the medial line of the body, and is more especially visible near the rump.

This mark is much looked for in Flanders, where great importance is attached to it; and among the dairymen of Paris, as well as the south of France, where a common saying is, that a cow will be productive of milk, "especially when, towards the middle of the spine of the back, the processes stand apart so as to leave a space of two fingers' width."—(A. Rodat.)

If the chine is double, the vertebræ are thicker, the haunches more apart, and the loins and rump of greater width; in this case, the hind quarters are more largely developed, the pelvis more ample, and, consequently, the organs lodged in the cavity, and even the milk vessels, of larger dimensions.

The dairymen of Paris call these interruptions of the vertebral column *fontaines de dessus* (upper springs), in contradistinction to the *fontaines de dessous* (under springs), or those openings where the veins of the stomach sink into the flesh. They say that, in good cows, these upper and lower *fontaines* correspond with each other, and are equally large.

We may observe, that they never correspond, since those above are upon the medial line of the body, and the others on the lateral parts of the belly; and that the name of springs (of milk) is not proper even for the lower one, although they are traversed by veins. The name thus given to the space left between the vertebræ, proves that it is a false analogy which has caused it to be considered as the sign of a good milker.

2. *Constitution.*—It is desirable that the special marks which indicate a great activity of the milky glands, and, consequently, a good milker, should be united with those which simply imply a good constitution.

These are large lungs, a broad and prominent chest, a somewhat low respiration, an abdomen of moderate dimensions, a good appetite, and a great inclination to drink—an inclination stimulated by the abundant secretion of milk.

Such cows eat much, digest easily, and breathe well: they make *good* blood. This fluid gives activity to the nervous system, makes all the organs lively, and furnishes the glands with the materials of a copious secretion.

Cows possessing these properties last long, give much milk, and, when they become dry, soon fatten.

But it often happens that activity and vigour in the milky glands are united with close ribs, narrow, feeble lungs, delicate digestive organs, a moderate appetite, and frequently an ardent thirst. In that case, the cows have had a bad constitution, they can give much milk, but it is watery, and of bad quality, and they often die of disease of the lungs.

These cows seldom have many calves, though they show a great inclination for the bull; and they are difficult to fatten even when they are in good health, and not giving milk.

3. *General appearance* (*Physionomie.*)—In all breeds, the preference should be given to cows which in form are the farthest removed from that of bulls; to cows with small bones, fine and slender limbs, and a tail which is fine at its base; a small but longish head, narrowing towards the horns; the horns themselves of a bright colour, tapering finely, and glistening; a supple and soft unctuous skin, covered, even to the forehead, with erect, glossy, soft hair, and provided, near the natural passages, with a short, fine, and silky down; a small neck, and shoulders (*encolure*) apparently long, because slender, especially near the head; small eyelids, well divided, but not much wrinkled; prominent eyes, and a gentle feminine look.

4. *Temperament.*—With these marks of a feminine description, cows should unite a sanguine-lymphatic temperament, and especially a mild disposition. Good milkers allow themselves to be easily milked; often, while ruminating, they look with a pleased eye, easily recognised, at the person who milks them; they like to be caressed, and caress in return.

5. *Colour.*—We do not mention colour as a sign of milking qualities, for we find good milkers among black Dutch cows, and red Flemish cows, as well as among white cows, and the wheat coloured cows of Bresse. Colour may be of great value, but it is chiefly as indicating the origin of the animal. The Flemings and Normans are very careful in preserving the colours of their horned cattle, but it is only because a red colour, serving to characterise animals of the Flemish, and a brindled colour those of Norman breed, facilitate their sale.

PHYSIOLOGICAL SOCIETY.

MONDAY, MARCH 13, 1854.—MR. RICHARDSON, in the Chair.

ON THE DEPOSIT OF FAT IN CERTAIN CONDITIONS OF THE BODIES OF THE LOWER ANIMALS.

DR. CRISP directed the attention of the members of the Society to the above fact, which, as far as he knew, had before escaped observation. A short time since, a Chilian eagle, which had been seventeen years in the Regent's Park Zoological Gardens, died suddenly from the rupture of a blood-vessel in the lungs. The bird was in beautiful plumage, in good condition, and weighed six pounds and a half. Dr. Crisp found the lungs so tuberculated that scarcely a sound portion could be seen. Notwithstanding this extensive pulmonary lesion, the bird was excessively fat, the flakes of fat on the pelvis and abdomen being large and solid. Dr. Crisp had met with many instances of a similar kind, more especially in birds; but they were not confined to this class of animals, for he had seen many examples of fat pigs with tuberculated lungs, and he had learned from some feeders of cattle that an ox with a damaged lung would often make fat faster than a sound animal. Perfect rest, however, was necessary, and it should be borne in mind that if the thoracic lungs of a bird were diseased, other parts of the body would take on a compensatory action. Dr. Crisp thought the explanation of the phenomenon in these cases was, that the carbon not being eliminated by the lungs was converted into fat by its union with hydrogen and oxygen. In making a comparison between a pulmonary tubercle in man and the lower animals, it is important to remember that the latter are not affected with the exhausting purulent discharges which generally occur in the human species.

THE COSSACKS ADDRESS TO HIS HORSE.

(*From the 'Times.'*)

We have been favoured with the following spirited translation of one of Beranger's most brilliant odes. Evenwhen written, it was not so appropriate as now to the actual position of affairs :—

My noble courser of the waste, true friend to bold Cossack,
Impatient still for pillage, intrepid to attack,
Fly where the northern trumpet sounds along the Polar heath,
And lend beneath thy rider's form to-day new wings to Death.
No gold adorns thy saddle, no jewels deck thy rein;
But gold and gems enrich the foe, and valour all shall gain.
Then, neigh alond with martial pride, my courser wild and fleet;
And trample nations in the dust, and Kings beneath thy feet.

Peace flies the earth, and, flying, to me thy reins has flung;
Old Europe's ramparts crumble down, her portals wide are swung.
Pour forth before my greedy hand the wealth her vaults enclose,
And rest thee in the classic haunts where arts e'en yet repose.
Twice hast thou laved thy gory flank within the rebel Seine;
Return, return, my courser, and drink her waves again.
Then neigh, &c.

Besieged as in some mighty fort by subjects oft betrayed,
The king, the noble, and the priest, all cry to me for aid—
Oh! save us from our people's hand, and leave us tyrant's still,
And we will be thy slaves, Cossack, the puppets of thy will;
And I have taken up my lance to do the thing they spoke,
And cross and sceptre shall go down before that lance be broke.
Then neigh, &c.

I saw beside our bivouack a giant's shadowy form;
Beneath his gaze the watch-fire paled, his accents hushed the storm.
"My reign begins anew," he cried, and o'er his phantom crest
He waved his battle-axe on high and pointed to the West.
Oh well I knew the royal Hun, the chief of deathless sway,
Thy son, O Attila, am I; they mandate I obey.
Then neigh, &c.

The glories that o'er Europe's brow their paling radiance bend,
The learning that adorns her sons, but aids not to defend,
Engulfed within the cloud of dust that from thy hoofs is cast,
Shall vanish blank and recordless, the present with the past.
Efface the shrines where nations kneel—efface the kingly throne—
Law, manners, memories, all efface—and be the wreck our own.
Then, neigh aloud with martial pride, my courser wild and fleet;
And trample nations in the dust, and Kings beneath thy feet.

THE VETERINARIAN, MAY 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

Having last month made a few cursory observations "on the shoes and the shoeing of the horses of our cavalry about to proceed to Turkey," we shall, this month, direct our regard to the horses themselves. Although, from various causes, British regiments of cavalry may not maintain the like pre-eminence over continental forces of the same description, which, in former times, they, by universal acknowledgment, were admitted to do; still are they, generally speaking, worthy of admiration for being mounted upon a superior breed of animal to what is to be attained in countries where horses are little cared for, in their breeding, in their feeding, and in their grooming, to what they are, on account of the high price they fetch in the market, when reared

under such favourable circumstances as are met with in England. We possess no animal that fetches the same high price as the horse; whose various traditions and qualifications (such as breed, description, character, and other properties) diversify his value from an amount incredibly high down to one of a comparatively low figure; so loose and indefinably wide is this range of value, or at least of marketable price, that it may be said to extend from as high even as a thousand pounds, down to the low fraction of the hundredth part of that sum. The comparative scarcity and consequent enhancement of price for the same stamp of horse has, of late years, tended to the deterioration of our remounts of cavalry. The price being, by government, a fixed one—£26 5*s.*; the only alternative officers of cavalry have, in making their purchases, in times of scarcity, is to take remount horses at a younger age—at three, and even occasionally at *two* years of age, in order to obtain a description of horse which, with another year over his head, would fetch £36 or £40, and thus become out of reach for purchase by the regulated or fixed sum. This will afford one main reason, and the principal one perhaps, why our cavalry are not mounted so well as they were some years ago; though still, without inferiority; and still, probably, superior to the corresponding troops of most other nations, —in as far, at least, as their horses are concerned.

There is a work "on Cavalry," by Captain Nolan, recently published, commanding a good deal of attention at the present moment, owing to its applicability to the existing juncture of our expeditionary affairs; from which we may, on the occasion before us, cull a few extracts not less amusing than instructive to us: at all events, as far as the cavalry warfare can concern or interest us. Instead of taking our extracts from the work itself, we will seize the advantage of a condensation of the Captain's observations presented to us in the *Times* paper for one day in March last. They come to us in the form of "Review," and run as follows:—

CAVALRY, ITS HISTORY AND TACTICS.

"A very seasonable little work, under the above title, has just been given to the world by Captain L. E. Nolan. The

author is well known in military circles as having served with considerable distinction in various quarters of the globe. The book is scarcely a work upon tactics, for, in the case of cavalry, in Captain Nolan's opinion, these are not capable of being reduced to set rules. What is wanted is to have man and horse in the most efficient condition for action at any moment their services may be required. Let this be done, and let a body of cavalry be placed under the charge of a competent cavalry officer, and the result to be obtained would be something very different from anything yet seen in warfare, according to the conviction of the writer of the present book.

The common opinion has been, that cavalry acting against infantry in squares must incur certain defeat. Such has never been our own idea. We have seen a runaway horse dash through a closed turnpike gate—we have seen what horses have accomplished in the hunting-fields against banks of earth topped with paling, quickset, and other fences. The animal in such cases was beyond controul. It was not sensible of any nervous pulsation or tremor in its rider's fingers. It went straight on, without fear, without nerves, like a cannon-ball. From the evidence of our own senses, we are inclined to believe that a horse at full speed is one of the most awful "missiles" known in warfare. A horse will go on for some distance, maintaining its speed, even if it has received its death-wound, in all cases save where legs have been broken, or the skull has been completely shattered —in the second case even the onward progress of the body is not instantly checked. "It is impossible," writes Captain Nolan, "for the infantry soldier physically to resist the power of a horse when at speed; that the horse will face both fire and bayonet is proved by the many examples given. The horse often feels the man's unwillingness to go on and turns, but then it is *in obedience* to the bridle hand." The Great Frederick won his principal battles—15 out of 22—by cavalry charges. It was a maxim of his day, and of his army, that infantry and artillery were powerless against the mad surging wave of the Prussian horse. His two chief officers were Ziethen and Seidlitz. These two generals devoted all their thoughts to making the men good horsemen. The great point to obtain was that they should charge at full speed for 1,000 yards without breaking their array. This point was gained, and with it the fate of battles. In many of the contests during the Seven Years War, the Prussian cavalry literally swept whole armies out of the field like chaff before the wind. The arm of these horsemen was the sword—the secret of their victories, good horsemanship."

Not the least interesting portion of the Captain Nolan's work is a somewhat lengthy translation from Berenhorst's well-known work, "*Betrachtungen über Kreigskunst.*" By this author the point is mathematically considered, so to speak, and it appears to be demonstrated that, if the cavalry line will but hold on its way after it has been once properly arranged, some score or two of saddles may be emptied, but the horses must get in. Infantry has but time to deliver two volleys (this before the long range), and thus to knock over every sixth horse. Twelve seconds are allowed the foot soldier to reload his piece. The cavalry soldier passes over 600 paces in 30 seconds—each 100 paces, five seconds. If the infantry fires when the cavalry is 300 paces distant, and 12 seconds later again, they have three seconds left to bring the bayonet to the charge. These are nice calculations, and from them we turn to another portion of the subject. In the disputed question between "Heavies" and "Lights," Captain Nolan is entirely in favour of the latter. "If a heavy-armed horseman gallops and exerts himself only for a few minutes, the horse is beaten by the weight, the rider is exhausted by supporting himself and his armour in the saddle—his sword-arm hangs helplessly by his side; he can hardly raise his heavy broadsword; such a man is at the mercy of any light horseman who may turn upon him." This is but a dismal picture of our tall friends—the Heavies—in action. As may be supposed from this description, defensive armour is treated with the most supreme contempt, not only as useless, but as positively injurious, from the fatigue it causes to the wearer. Captain Nolan, indeed, is completely of opinion that heavy cavalry should be maintained, but that the weight should be in the horse, not the rider. The places where a cavalry soldier has to dread wounds are on the back of his head, his arms, and his legs. As for his chest, that must be left to take care of itself; he has little to dread there from his actual antagonists, and a cannon ball or Minié rifle bullet would make light work of helm or cuirass. Small men, lightly but efficiently armed, on horses more or less powerful, as the cavalry is to be heavy or light, constitute the *personnel* of Captain Nolan's system. He tells us the Hungarian Hussars are about the best light troops in Europe, and they are all small men. In a word, the great maxim would appear to be speed, not weight. If this maxim held good even during the last war, what must be the case now, when fire begins to be operative at so much more distant a point?

PROCEEDINGS OF COUNCIL.

A SPECIAL COUNCIL MEETING

HELD AT THE

INSTITUTE OF THE ROYAL COLLEGE OF VETERINARY SURGEONS, March 22, 1854.

Present:—Messrs. Braby, Ernes, Henderson, King, Stockley, Withers, Professors Spooner, Simonds and Morton, and the Secretary.

W. Stockley, Esq., Vice-President, in the Chair.

This meeting was called to receive the accounts of the House Committee, which were laid on the table.

The builder's original contract was for £193 10s.; but owing to the very defective state of the drain, which required to be entirely relaid with pipes, thereby incurring an additional expense of £31 4*s.* 3*d.*, less £5 allowed, with a few extras to complete the works, amounting to £13 17*s.* 7*d.*, made the amount £233 11*s.* 10*d.*; to this had to be added some fittings for the Museum, amounting to £3 5*s.* 5½*d.*, making a total of £236 17*s.* 3½*d.*; £60 of this had been paid on account, leaving the balance due £176 17*s.* 3½*d.*

Your solicitor has had £40, to pay certain arrears of rent and taxes in lieu of paying for the fixtures.

The surveyor's account for the usual per centage allowance, &c., is £16 1*s.* 6*d.*

The furnishing is nearly finished, and will be completed within the sums voted by the Council.

After some general conversation, it was moved by *Mr. King*, and seconded by *Mr. Ernes*, that the balance of the builder's account, amounting to £176 17*s.* 3½*d.*, and the surveyor's account of £16 1*s.* 6*d.* be paid, and that an order be given to the *Treasurer* to draw cheques for the same.—Carried unanimously.

It was moved by *Mr. Withers*, seconded by *Mr. Ernes*, and carried by acclamation, that the thanks of the meeting be given to the *Chairman*.

Messrs. King, *Withers*, and the *Secretary*, were named as the Committee of Supervision; and the meeting terminated.

S. H. Withers.
Francis King.
E. N. Gabriel.

QUARTERLY MEETING OF COUNCIL, April 5, 1854.

Present:—The President, Messrs. Braby, Ernes, Henderson (Treasurer), Lepper, Sylvester, and Withers, Professors Simonds and Morton, and the Secretary.

W. J. Goodwin, Esq., the President, in the Chair.

The minutes of the previous meeting were read and confirmed.

The *Secretary* read a letter from Mr. Thomas Walton Mayer, resigning, in consequence of increasing professional duties, his office as Member of the Council and of the Examining Board.

The Secretary was directed to write to Mr Mayer, requesting him to act at the ensuing Examination, if a successor should not by that time be appointed.

The report of the Finance Committee appointed to inquire into the discrepancies in the accounts mentioned by *Mr. Cherry*, in a letter to the President, was then read; and, on the motion of *Mr. Sylvester*, seconded by *Mr. Lepper*, it was unanimously adopted.

Professor Morton proposed, and *Mr. Sylvester* seconded, the appointment of Mr. Cox as auditor.

Mr. Ernes proposed, and *Mr. Braby* seconded, the appointment of Mr. Broderick to the like office.

Both gentlemen were unanimously elected.

Mr. Braby proposed that Mr. Ernes, Mr. Withers, and the Secretary should constitute the Committee for drawing up the annual abstract to be presented at the annual meeting in May.

Mr. Henderson seconded the motion, which passed unanimously.

The following gentlemen were then nominated as Members of the Council for the ensuing year, to fill the vacancies created by the annual retirements, and also that caused by the resignation of Mr. Mayer:—

Prof. Spooner . . .	by Mr. Gabriel.
Prof. Simonds . . .	„ Mr. Ernes.
Prof. Morton . . .	„ Mr. Sylvester.
Robinson	„ Prof. Morton.
Wilkinson	„ Mr. Goodwin.
Gowing	„ „ Morton.
W. Mavor, Jun. . . .	„ „ Simonds.

Moon	by Mr.	Goodwin
Vines	,, ,,	Braby
F. C. Cherry	,, ,,	Ernes.
Lepper	,, ,,	Gabriel.
Rogerson	,, ,,	Silvester.

A SPECIAL MEETING OF COUNCIL, April 19, 1854.

Present:—The President, Messrs. Ernes, Field, Henderson (Treasurer), King, Turner, Varnell, and Withers, Professor Simonds, and the Secretary.

W. J. Goodwin, Esq., the President, in the Chair.

The minutes of the previous evening were read and confirmed.

The annual balance sheet was then laid before the Council:—the income, including the balance from last year, was £891 16*s.* 8*d.*, the expenditure £757 8*s.* 10½*d.*, leaving a balance in hand of £134 7*s.* 9½*d.*

Mr. King moved the reception of the balance sheet.

Prof. Simonds seconded the motion, which passed unanimously.

The *Secretary* then read the "Annual Abstract," prepared by the Committee appointed for that purpose, and intended to be submitted to the annual meeting in May. After some verbal alterations, its adoption was moved by *Mr. King*, seconded by *Mr. Henderson*, and unanimously agreed to.

On the motion of *Mr. Henderson*, seconded by *Mr. Field*, a vote of thanks was unanimously passed to the Committee for their services in preparing the abstract.

The names of Mr. Joseph Beeson and Mr. William Lacey were proposed by *Prof. Simonds*, to be added to the list of members to be submitted to the annual meeting in May.

Prof. Simonds, *Mr. Henderson*, and the *Secretary*, were named by the *President*, as the Committee of Supervision for this and the preceding meetings; and the proceedings then terminated.

Alex. Henderson,
Jas. B. Simonds.
E. N. Gabriel.

THE

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ANNUAL MEETING OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

[From our own Reporter.]

The tenth annual meeting of the members of the Royal College of Veterinary Surgeons, was held in pursuance of the Provisions of Charter, on Monday, the 1st ult., at their new College, 10, Red Lion Square,—the President, W. J. Goodwin, Esq., in the chair. The following gentlemen were present on the occasion:—Messrs. Alexander Henderson, W. M'Gennis, Richard Vines, Wm. Helmore, Charles Dickens, Arthur Cherry, Richard Pritchard, Wm. Burley, Wm. Robinson, W. T. Stanley, Jas. Turner, W. H. Kent, Samuel Peech, Edward Bailey, H. R. Steevens, Joseph Woodger, Robert L. Hunt, E. Braby, E. N. Gabriel, Wm. Ernes, J. B. Simonds (Prof.), W. Morton (Prof.), James Moon, M. J. Harpley, and James Hall.

The Chairman, in opening the proceedings, said that the only circumstance which he had to mention as having occurred during his tenure of office, was that the members of the College were now for the first time assembled in a habitation of their own, instead of, as formerly, in the Freemasons' Tavern; and he hoped that their new dwelling would often be the witness to counsels, which should lead to the advancement of their interests, and the exclusion of those feelings of "envy, hatred, and malice," that had hitherto disturbed the unanimity of the profession. (Hear, hear.)

The Secretary then read the following abstract of the proceedings of the Council:—

[*Abstract of the Proceedings of the Council of the Royal College of Veterinary Surgeons, during the Year* 1853-4.]

In the Tenth Annual Report of their Proceedings, the Council have the pleasure of reiterating the statement of the

three preceding years; namely, that a mere relation of facts is all that will require your attention.

They would first call your attention to the following Report of the House Committee:

"Your Committee, in reporting a *resumé* of their labours, the result of which is this day before you, would observe that the first object of their consideration, in February, 1852, was the taking of a house, No. 38, Hart Street, Bloomsbury. This was to have been let at a rental of £85 per annum, but while negociations were going on, the owner became a bankrupt, and the property was ordered by the assignees to be sold. The lease was valued at £300, the rental under this, the original lease, being £50 a year. Your solicitor thought it could be had for £250; but while endeavouring to obtain this reduction, the property was sold to another party for the price demanded. The next house looked at, in October, 1853, was No. 42, Bloomsbury Square, with accommodation superior to that in Hart Street. For this £90 a year was demanded, with a premium of £300 for the lease and fixtures. Your Committee had decided on acceding to the terms, when it was discovered that a clause in the lease prohibited its being let to any public body; and although application was made by your President to the Duke of Bedford to rescind the prohibition, it was declined. The third house which was brought to the notice of your Committee, in December, 1853, affording very much better accommodation than either of those previously seen, was 10, Red Lion Square, the one in which you are now assembled. For this a lease of seven, fourteen, or twenty-one years has been obtained, at a rental of £60 a year, the Council undertaking to place it in thorough repair. Some arrears of rent and taxes, amounting to about £40, had to be paid in lieu of fixtures. The repairs have been completed at an expense of £254 19*s*. 9½*d*. The furnishing has also been effected, with the exception of such additions as may hereafter be required for the library and museum, within the sum allowed by the Council, £175; and your Committee have the gratification of believing that the suite of rooms devoted to the use of the College, consisting of council-room, board-room, library, museum, and students' waiting room, is equal, if not superior, to any that could have been obtained, on anything like equivalent terms, in the metropolis. A messenger is in constant attendance. The rent and wages amount to £100 a year, less £40 paid by your secretary for the convenience of the residence, thus reducing the annual expenditure for those two items to £60. The expense hitherto incurred of £16 a year for the hire of rooms will also cease to be required."

The Council have to state that the future arrangements connected with the residence will be carried out with a due regard to economy, and they believe that the extra expense incurred will be more than counterbalanced by the accommodation afforded. Some valuable donations have already been made to the library and museum by your President, Professor Morton, Mr. Henderson, Mr. Field, Mr. Ernes, Professor Simonds, and Mr. Gabriel; and it is hoped and trusted that the nucleus thus prepared will be augmented by the kind contributions of very many members of the profession. In the catalogues of the library and the museum will be registered the donors to either department.

The permanent Finance Committee has this year been appointed, consisting of Professors Simonds and Morton, and Messrs. Ernes and Braby, and the value of their services will be seen in the following report:

"In consequence of a complaint having been made to the Council that the accounts of the College are very erroneously kept, your Committee have examined the said accounts from their commencement in March, 1844, to April, 1853, inclusive, and have to report in explanation of the discrepancies existing in the printed balance-sheets annually laid before the General Meeting of the Profession, that such *printed* sheets do not correctly show the state of the funds of the College. The Committee, however, have ascertained that the College accounts, as shown by the cash-book, have been most accurately kept, and the balance therein set forth agrees with the last audit, as appears by the annexed general balance-sheet.

"With respect to the errors adverted to by Mr. Cherry, in a letter addressed by him to the Council, the Committee find that the first item of £5 1*s.* 6*d.* is accounted for, by its appearing in the cash-book in the expenditure for the year 1846, being omitted in the *printed* sheet. The second item of subscriptions, amounting to the sum of £24 2*s.*, in June, 1846, and said not to be accounted for, is included in the subscription list of £44 7*s.*, received during the whole year. The third item of £32 19*s.*, in 1848, is as readily explained as the antecedent ones. On the expenditure side of the *printed* report £4 are omitted, and on the receipt side £2 11*s.*, making a difference of £1 9*s.*, which sum, added to £31 10*s.* entered as cash for six admission fees, *but which did not then come into the funds of the College*, will make a difference of £32 19*s.*, being the discrepancy complained of.

"Your Committee are gratified to be enabled thus satisfactorily to complete their investigation, and have only further to suggest that, to facilitate the auditing the accounts, they

recommend that a ledger should be kept, as well as a cash-book; and that a printed receipt book, with counterpart, be obtained for sums paid as fees by the candidates for examination.

"*March* 22, 1854."

RECEIPTS.	£	*s.*	*d.*	EXPENDITURE.	£	*s.*	*d.*
1843 . .	189	7	6	1843 . .	62	1	2
1844 . .	1319	7	0	1844 }			
1845 . .	252	11	0	1845 } . .	1449	7	4
1846 . .	81	18	0	1846 . .	71	8	3
1847 . .	257	12	2	1847 . .	381	0	0
1848 . .	383	0	0	1848 . .	326	1	11
1849 . .	196	4	0	1849 . .	254	13	6
1850 . .	472	11	7	1850 . .	395	13	6
1851 . .	389	15	6	1851 . .	381	14	10
1852 . .	523	8	6	1852 . .	438	17	5
1853 . .	360	12	0	1853 . .	262	9	8
					£4023	7	7
				Balance with Treasurer, April 16th, 1853 .	402	19	8
	£4426	7	3		£4426	7	3

The Council have also to state that the Committee appointed to obtain a Bill of Exemptions were this year re-elected. Their efforts were limited this time to the obtainment of a Bill for exempting the members of the body corporate serving on juries only, giving up the point of parochial offices; but, on application being made in influential quarters, it was ascertained that the feelings of the Government were so opposed to the granting of exemptions of any description whatever, that for the present the attempt has been relinquished. Anxious, however, that some distinctive prerogative should be possessed by the profession, they directed their efforts into another channel, and endeavoured to obtain an enactment similar to the one secured by the Pharmaceutical Society, namely, that of preventing any persons, under the penalty of a fine, from assuming its title without having passed the required examination. On further inquiry, however, it was found that the Pharmaceutical Society had not the power of preventing any one calling himself a "chemist," but merely of restraining his using the title of "pharmaceutical chemist," the term "pharmaceutical" being an addition of its own. The same rule appears to be applicable to Veterinary Surgeons. If the Council could introduce a new cognomen by which the profession could be designated, the sole and

exclusive use of it could be secured to the members of the body corporate; but as long as the term "veterinary surgeon" is made use of, its exclusive adoption appears to be a matter of great difficulty. Should the Government, however, as is generally reported, bring in a new Medical Bill, your Council will not lose sight of the opportunity it may afford to obtain this just and necessary boon to the profession.

The number of deaths reported to the Registrar this year is 17. Among them the Council have to notice the lamented loss of Professor Sewell, late President of the Royal College of Veterinary Surgeons and Senior Professor of the Royal Veterinary College. His last public act was presiding at a dinner given by him to the Members of the Council previous to his retirement from office as President, when the sincere interest he expressed in the well-doing of the profession, and the genial good-will he evinced towards his fellow-members of it, will not soon be forgotten. The number of members admitted into the body corporate during the past year is 49. These have all emanated from the London School, and are entitled, in virtue of the examination they have undergone, to assume the title of Members of the Royal College of Veterinary Surgeons. Four hundred and eighty members have been admitted since the obtainment of the Charter,—352 from the London, and 128 from the Edinburgh School. The total number of living members now on the list is 1379. The Register remains as last year, but a reissue will take place at the termination of the ensuing examinations; and the Registrar begs the favour of any changes or inaccuracies being communicated to him, in order that the new list may be rendered as correct as possible.

The financial affairs of the College continue satisfactory. The balance in hand is necessarily lessened, from the investment for securing and furnishing the residence. After providing for rent, wages, and other incidental expenses up to the present quarter, the sum of £134 7*s.* 9*d.* remains in hand, as is shown by the annexed balance-sheet. Professor Spooner has been elected, in the place of the late Professor Sewell, as Trustee of the College.

On the whole, your Council think that the present state of the affairs of the body corporate merits congratulation. A code of Bye-laws fairly and legitimately carried out; a Board of Examiners whose efficiency is beyond dispute; a state of finance satisfactory, if not flourishing; an Institute which not only the *élite* of our own, but of any other profession, need not be ashamed to occupy—these are not the symptoms either of arrogant pretension or premature decay. May the

local habitation so long desired become a permanent abode for the transaction of professional affairs, whether official or otherwise. That it may prove the rallying point around which mutual good feeling, a courteous interchange of professional opinions, and frequent and happy reunions of the members of the chartered body may entwine, is the earnest desire of your Council.

E. N. Gabriel, *Secretary.*

April 19th, 1854.

ALEXANDER HENDERSON, Treasurer, *in Account of Cash with the Council of the Royal College of Veterinary Surgeons.*

Dr.

1853.	£	*s.*	*d.*
To balance from last year	402	19	8
„ Examination and Admission Fees . .	467	5	0
„ Copies of Register .	0	10	0
	£870	14	8

Cr.

1853.	£	*s.*	*d.*
By Fees paid Board of Examiners . .	90	6	0
„ Allowance to Secretary . . .	100	0	0
„ Rooms for Meeting	14	5	0
„ Advertisements .	9	18	2
„ Reporter . .	7	5	6
„ Stationery . .	6	6	7
„ Printer . . .	9	14	6
„ Builder . . .	236	16	3½
„ Surveyor . .	18	3	6
„ Arrears of Rent and Taxes, in lieu of fixtures . .	40	0	0
„ Furnishing house .	175	0	0
„ One Quarter's Rent	15	0	0
„ One Quarter's Wages	10	0	0
„ Coals. . . .	3	11	4
Balance in hand .	134	7	9½
	£870	14	8

We, the undersigned, have audited the above, and found them correct.

John Roalfe Cox,
John Broderick.

April 18th, 1854.

Mr. Broad moved the adoption of the annual abstract.

Mr. Wm. Helmore seconded the motion, which passed unanimously.

The meeting then proceeded to the election of seven members of Council in the room of Prof. Spooner, Prof. Simonds, Mr. Wilkinson, Mr. Robinson, Prof. Morton, and Mr. F. C. Cherry, who retired by rotation, and Mr. T. W. Mayer, resigned.

The following gentlemen were nominated to fill the vacancies:—

Professor Spooner, London.
Mr. Robinson, Tamworth.
Professor Simonds, London.
Mr. Wilkinson, 2d Life Guards.
Professor Morton, London.
Mr. Gowing, Camden Town.
„ Moon, Kingston.
„ Lepper, Aylesbury.
„ W. Mavor, Jun., London.
„ Vines, Camden Town.
„ Beeson, Amersham.
„ F. C. Cherry, Clapham.
„ Lacey, Adbolton.

Professor Morton said he found that his name was among the list of persons nominated as members *of* the Council, he being, like the other retiring members, eligible for re-election. He had not, however, the slightest desire to be re-elected to the office, and as many members of the profession had such a desire, he would, if permitted, willingly have his name withdrawn.

The Secretary said he was quite sure that no member of the profession at all aware of the value of Professor Morton's services, would for a moment think of accepting his offer.

On the motion of *the Secretary*, seconded by *Mr. Henderson*, Mr. Broad and Mr. Helmore were elected scrutators.

A ballot was then taken, and the votes were as follows:—

Professor Simonds	25
Professor Spooner	24
Mr. Wilkinson	24
Professor Morton	23
Mr. Robinson	23
Mr. Lacey	12
Mr. Gowing	9
Mr. F. C. Cherry	8
Mr. Moon	7
Mr. Lepper	7
Mr. Mavor	5
Mr. Vines	4
Mr. Smith	1

The Chairman declared the election to fall on Professor Simonds, Professor Spooner, Mr. Wilkinson, Professor Morton, Mr. Robinson, Mr. Lacey and Mr. Gowing.

Mr. James Turner then proposed a vote of thanks to the President, who, he said, was one of the brightest stars of the profession, and whose course of life—one of undisturbed success—reflected credit not only upon himself, but upon the profession at large. (Hear, hear.)

Mr. Pritchard seconded the motion, which was passed unanimously.

The President, in returning thanks, said that, when he was elected to office, he had to ask the indulgence of the members on account of his inexperience in the conduct of public meetings, and he thankfully acknowledged that that indulgence had been freely granted to him. The members of the Council had shown the utmost readiness to assist him, and had spared no trouble or expense in the performance of their duties. (Hear, hear.) He was sorry to find that there were two gentlemen absent whose presence the meeting would have hailed with satisfaction. The first was Professor Spooner, whose absence, he regretted to say, was occasioned by ill health; and he was sure that the meeting would cordially sympathise with him, and wish him a speedy restoration. (Applause.) The other gentleman whose presence he expected was Mr. Percivall. His regiment was in London; he was the editor of *The Veterinarian*, and, moreover, a member of the Council and of the Board of Examiners; added to which, he was furnished, at the expense of the Council, with a report of all the proceedings that took place at the Board, for insertion in the pages of his journal. He would say nothing about the talent displayed by Mr. Percivall in *The Veterinarian;* but when he found that gentleman writing about the "apathy" of the profession, he could not help thinking that he himself had the best title to that character. Having descanted upon the secession of the northern from the southern school, Mr. Percivall recommended, and without any very just reason, concession. The meeting well knew that a great deal of concession had been made; and as it had not been met in a conciliatory spirit, but rather with every kind of indignity and hostility, it was almost time to declare war. Much to his (the President's) surprise, Mr. Percivall said: "We cannot help thinking—and we know there are not a few who think with us—that our College, as it stands, partakes rather too much of the hole-and-corner system." Now, he very much regretted that Mr. Percivall was not present to tell the meeting what he meant by the "hole-and-corner system." He was induced to mention the subject, as, if such a statement were allowed to go uncontradicted, they would be reading their own condemnation. He made these

observations with the best feeling, but he could not forget that even friendly considerations should be overlooked when a public duty had to be performed. (Hear, hear.)

Mr. Vines was then about to make some observations in criticism of the acts of the Council, when

The President said that an opportunity had been afforded him of discussing the subject after the reading of the annual abstract, and that he was not at present in order in addressing the meeting.

The proceedings then terminated.

MR. MAYHEW.

To the Editor of "The Veterinarian."

Sir,—In the May number of this journal appeared two articles, both of which pretend to be "replies" to a paper which I had ventured to lay before your readers in the publication of the previous month. To the authors of these communications I have no answer to give. My views and opinions are already printed. The voluntary comments pretended to be upon that which I had written are likewise before you. Upon comparison of the two, you will without much difficulty discover that almost every assertion in the last is a mis-statement of the facts contained in the first. This circumstance prevents me answering the observations in the "replies" of Messrs. Robert Dun and Smith, because neither particularly concern me, nor refer to anything for which I am responsible.

There is, however, one circumstance, which I feel assured you will pardon me if I direct your attention to. Both the self-appointed critics are personally unknown to me; yet each speaks of me in a style and with a directness perfectly unknown among gentlemen who are desirous merely of obtaining information, or of correcting unintentional error in a stranger. I have, nevertheless, far too much respect for your readers to attempt to fill these pages with an angry dispute, under pretence of engaging in a scientific discussion.

Before I bid you adieu, however, allow me to direct your recognition to the very strong likeness that prevails between the two commentaries. Mr. Smith, to be sure, at the commencement, writes in an altered manner; but he has not proceeded far before he adopts the same artifices—similar violence towards an unknown individual—and a style exactly

like to that which characterises the communication signed Robert Dun. Indeed, most of the remarks I have been honoured with by persons connected with the institution to which each reply refers, have been so peculiar for an internal resemblance, that it requires excessive credulity to call them entirely the result of accident.

I have the honour to be, sir,

Your very humble, obedient servant,

EDWARD MAYHEW.

MR. CULLIMORE.

To the Editor of "The Veterinarian."

DEAR SIR,—Having seen in *The Veterinarian* for October, 1853, an allusion to my case, I beg you will be kind enough to give an early insertion to the following. I had independent medical charge of the 5th Regiment of Native Cavalry; Captain Gall was the officer in command, and he took upon himself to report me as unskilful; in consequence of which, "I was removed to the 2d Native Cavalry, stationed at Bangalore, and the Senior Veterinary Surgeon of this station was directed to superintend my practice, and to report upon the same at the expiration of six months, which he did, and the result of his report upon my medical practice was, that I was removed from the 2d Regiment Native Cavalry to do duty under this Senior Officer, and *he* got the *Veterinary charge and allowances* (in addition to his own Veterinary charge of Artillery), *from that date up to this moment.* After my removal to do duty in the Artillery under this officer, *he* was directed to report periodically upon me—which he did for a period of about one year and four months. In these reports (which I was refused a perusal of), he stated that I commenced my career in the service with lax habits!! that I am apathetic and lukewarm; that I am an *empiric* and ineffieient!!!

When I was removed from the 5th Light Cavalry, I was *not* given a court of inquiry, before whom I could have defended myself against Captain Gall's reports.

When I was removed from the 2d Regiment of Cavalry, I was *not* given a court before whom I could have defended myself against his reports, and ultimately, when this Veterinary Surgeon's *last* report upon me, stating my practice to be inefficient and empirical, was forwarded, I was refused a

court of inquiry before whom I could have defended myself, although I applied for the same, and my application was supported by Colonel Shirreff of the Artillery, and the Major-General commanding the division. I was refused even an explanation, and my case is now gone to England for the orders of the Court of Directors, without giving me a court-martial, court of inquiry, or court of any description, which the commonest felon is entitled to, and receives before he is condemned. Yet my case is gone home on the *ipse dixit* of *one* Veterinary Surgeon, without having given me a court, or tribunal of any description, before whom I could have defended myself. Now, let the Veterinary Surgeons of the Indian Army see by my case how they would be positioned if they were to be placed under the control and mercy of *one* Veterinary Surgeon as a superintendent; as such a functionary would not be to us, as a superintendent-surgeon is to our brothers of the sister art, as they (men of human medicine), should they think themselves wronged by such an individual, can refer to a higher authority, namely, the Medical Board; but that body would have less to do with us in the event of our having a superintendent of our own profession than they have even now!

I shall return to this subject, as well as my case, which, no doubt, will be considered an extraordinary one, when I know the decision of the Court of Directors; until then it might *not* be safe to say more. Trusting you will give an early insertion to this,

Allow me to be, dear sir,
Yours faithfully,
JNO. CULLIMORE, V.S.,
D.D. Horse Brigade Artillery.

BANGALORE; 18*th March*, 1854.

P.S.—I hope this will meet the eyes of the Council and Board of the Royal College of Veterinary Surgeons, and that they will state whether they allow empirics, out of the institution, upon the world, to kill instead of cure; and if they consider a man who had £100 per annum as an assistant, was once three years in the College, obtained his diploma, and has had now nearly six years of army practice,—if, I say, they consider it likely such a man could be an empiric or not.

THE CANINE DISTEMPER IN SOUTH AFRICA.

By William T. Black, Staff Assistant-Surgeon.

This distemper is a sad scourge amongst well-bred dogs in this country, especially to the first immigrants of them, and their immediate descendants; though the succeeding generations are less liable to be so violently affected. It attacks all well-bred English dogs, pointers, hounds, terriers, and bull-dogs, and I have seen and heard of all these kinds dying of it. A pack of fox-hounds, which one of our Dragoon regiments had out here, could never yet be increased by indigenous breeding (not promiscuously, I mean), and so were obliged to get fresh dogs, now and then, out from England. Another regiment got the remainder of the pack, after the war of '47, but they were not more successful in rearing the puppies, and the young dogs died of the distemper. Now, only one or two well-bred couples are left of the whole pack, and still the latest litters of these share the fate of those that preceded them, after they grow up to a certain age, and eventually, I think, the breed will be altogether extinguished. So it is with the other kinds of well-bred dogs: litter after litter of those dogs that have escaped the distemper themselves, when brought out full-grown, perish generally by wholesale,—one or two barely escaping.

No remedies have yet been established here for the abatement of this scourge, though many have been tried, so that a generally successful one would be very highly prized, and I should be glad to hear if any such could be recommended from England. I have treated three dogs, and saved them, with emetics of Tart. Ant. or ipecacuanha, followed by a purge of calomel and jalap, but I lost two by the same treatment.

Case.—Lincoln, a nearly thorough-bred bloodhound, young, but of full growth, had been evidently ailing for some time, say about six weeks before he died. He was listless, had a capricious or total want of appetite, often retching or vomiting after taking his dish of food, and was generally thirsty, and easily tired when taken out, or was unwilling to follow. Improvement once took place from a dose of calomel and jalap, but he again relapsed, and became much emaciated, but able to eat a little and go about. Before he had the dose his gums were whitish, but they became redder afterwards, and bilious stools were passed, so that I thought he was going to mend. However, on releasing him one day before breakfast, he could not rise—his gums were of a dirty yellowish-white colour,

eyes yellow, breath cold, pulse and breathing hurried. Several articles of diet and medicines were administered, but he died about noon.

On inspection of the body, the following day, the general tissue was found yellow tinged, and very relaxed. The liver was deeply yellow, soft, bloodless, flabby, and not enlarged or altered in structure. It showed no signs of inflammation, which, I may here remark, seemed entirely absent from all parts of the body. Handling portions of the liver stained the hands a deep yellow colour, which did not easily come off. The lobules were plainly defined, from engorgement of the minute biliary plexuses with bile; as, on tracing the smaller bile-ducts into the larger ones, they appeared like green cords, and were everywhere filled with thick black bile, which came out on pressure, in the shape of casts, or like coagula out of the blood-vessels. The *ductus choledochus* and *communis* had evidently contained recently the same sort of inspissated bile, and their coats were coloured black, and had probably been evacuated before death by the action of the emetic.

The gall-bladder, unevacuated, was filled with thick black bile, like tar. The next remarkable point in the examination was an immensely enlarged spleen, extending from the diaphragm to the brim of the pelvis, which was about the thickness of an ordinary man's arm. The stretched tunic contained a diffluent mass of grumous blood, with shreds and fibres, which poured out like thick dark mud when the tissue was cut. Pancreas was healthy, and not stained yellow. Kidneys were bright yellow, and a knife scraped off the section a thick yellowish fluid. The bladder was full, and contained yellowish-coloured urine, which stained the fingers. Stomach was healthy, except in a few congestive patches. The duodenum was filled with a thick dark-brown muculent bile, which extended into the small intestines, and gradually faded off, so that there was none in the ileum or rectum. A small congestive patch appeared here and there along the course of the intestines, seen both on the villous and mucous coats, and reflected through the peritoneal one. The heart was healthy, but flabby, and its cavities contained black coagula. The aortic lining membrane was tinged reddish-yellow; and the lungs were collapsed, soft, and contained but little blood.

Remarks.—The question may be, where did this disease, a type of the general distemper, originate, in the liver or in the spleen? Most probably in the liver, and was occasioned by non-elimination of bile from the biliary plexus and ducts, and in its absorption and retention in the circulation. Either

the biliary coagula were a consequence of this, there being no sufficient *vis a tergo*, or the impediment early existed in the inability of the ducts to force along such thick matter. Bile not flowing into the duodenum would arrest digestion, occasion its derangement, and prevent the absorption of fat; and by passing into the circulation would tinge the tissues, and flow off by the urine—causing torpor and muscular relaxation. Is it possible to suppose, that, at one time, there was a total suppression of bile, and for so long a period, that the contents of the bile-ducts had become so inspissated, that when the liver was again excited to action, the inertia of the ducts could not be overcome, and the bile was therefore pent up and thrown back into the circulation?

Again, we may conceive that a morbid process of secretion was going on all the time, and such bile became gradually thicker and thicker, till it became immoveable under the contractile efforts of the ducts, and so systemic jaundice took place, but not before.

As it seems a condition in the elimination of bile, that it should be separated from venous blood, and from blood containing absorbed matters of food, so, under the supposition of suppression of function in the hepatic cells, the portal capillaries in the liver would become inactive, and congestion would gradually ensue, and extend backwards to the splenic and intestinal circulation. While the hepatic artery might continue in free circulation, the splenic, gastric and intestinal arteries would finally react upon the organs on which they were distributed. Hence, probably, came to pass the congestion of the spleen, which kept so constantly increasing, and telling upon the contractility of the organ, that at last it gave way, like a ruptured heart—the traheculæ breaking—and nothing remained to retain the engorged contents but the peritoneal coat. We can, therefore, scarcely consider the spleen to be the original seat, or its derangements to be the initial steps of the disease.

There are a few more theoretical deductions that may be propounded on this piece of canine pathology, but we do not deem them worthy of further notice.

REMARKS ON MR. HAYCOCK'S PAPER ON HOMŒOPATHY,

(*Which appeared in the May Number of the 'Veterinarian.'*)

By Finlay Dun, V.S., Lecturer on Materia Medica and Dietetics at the Edinburgh Veterinary College.

Mr. Haycock contributes to the May number of *The Veterinarian* a reply to what he is pleased to term "my strictures on Homœopathy," as they appeared in my recently published work on 'Veterinary Medicines: their actions and uses.' The brief notice of Homœopathy there contained, was thought worthy of being transferred entire to the pages of the *Veterinarian* (April), and elicited in the following month Mr. Haycock's reply. To rebut this reply is an easy task, for my respondent confines his objections to one single expression, leaving the rest of my four pages of so-called "strictures" on Homœopathy unassailed and uncontradicted. The objections are in fact quite Homœopathic. In noticing the views propounded by Hahnemann, I have said that he teaches the following doctrine: "that the cure of a disease is effected by the administration, in small doses, of such medicines as would, when given to a healthy subject in large quantity, induce the *same* disease." Mr. Haycock has written a paper of five pages long, to show that in this definition I have "entirely misrepresented the principles of Homœopathy,' because I have employed the word *same*, when, according to him, I should have used the word *similar*. Let us look for a moment at the opinions of Homœopathists on this little matter. They entertain the belief that remedies are more appropriate the more nearly their effects resemble those of the disease they are given to cure. The founder of Homœopathy, in his great 'Organon'*—a work held in highest veneration by every Homœopathist—expressly states that the symptoms of a disease and its appropriate remedy should be, not only similar, but "as similar as possible" (p. 133), "the most similar possible" (pp. 230 and 175). Surely these statements

* 'Organon of Medicine,' by Samuel Hahnemann, translated from the fifth German edition, by R. E. Dudgeon, M.D., London, 1849. This important contribution by the so-called *apostle* of Homœopathy, is generally regarded as the standard book on the subject. In discussing the merits of this new medical creed, I have therefore taken my quotations chiefly from this work.

warrant the conclusion that the remedy most eminently adapted for the cure of any disease should, Homœopathically considered, be one capable, if possible, of "inducing the *same* disease." With this idea, I endeavoured in my book to describe Homœopathy in as clear and favorable a light as possible, and to avoid that ambiguity which attaches, as I shall afterwards show, to the expression "similar symptoms." If Mr. Haycock still demurs at my rendering of the Homœopathic doctrine, it might be as well for him to declare the exact limits of similarity, likeness, or resemblance, which, according to orthodox Homœopathy, ought to subsist between the symptoms of the disease and those produced by the remedy. Some similarity is affirmed as requisite "to effect a mild, certain, and permanent cure" (*Veterinarian*, May); "as much similarity as possible" is authoritatively declared as most favorable to success; but when the similarity becomes too close, when resemblance passes into identity, or in other words, when the symptoms of the malady and the effects of the medicine become the *same*, then, if we understand Mr. Haycock, all curative efficacy ceases. It would surely be an immense boon to Veterinary Homœopathy, if the exact limits of similarity requisite to ensure successful Homœopathic practice were distinctly indicated.

Since Mr. Haycock has come forward as the champion of Veterinary Homœopathy, and has published a book in its defence, it would have been well had he established the premises and position of the new system. This he has hitherto failed in accomplishing. In his paper in *The Veterinarian*, as well as in his 'Elements of Veterinary Homœopathy,' he has, however, advanced some strange assertions and extravagancies, to a few of which I shall now briefly advert. Quoting from Hahnemann's 'Organon,' he says: "To effect a mild, certain, and permanent cure, choose, in every case of disease, a medicine which can itself produce an affection similar to that sought to be cured." Now, I should have been glad if our author had indicated those medicines which he considers capable of producing symptoms bearing even the most remote similarity to such affections as thick-wind, roaring, pleurisy, strangles, or hydrophobia, for I know of no medicines which induce affections at all similar to these. Again, as to the homœopathic medicines, they do not in the great majority of cases develope "any affection similar to that sought to be cured." Oil of turpentine, sulphur, arsenic, iodine, belladonna, lemon juice, aconite, cinchona, with many others, certainly do *not* induce any affections at all analogous to those in which they are administered.

One of the most serious of the many errors into which Homœopathists have fallen, is their utter disregard of pathological changes, and their exclusive attention to the mere symptoms of disease. Mr. Haycock, in his 'Elements,' talks of symptoms as if they were the chief and only points to be regarded in the treatment of disease; while Hahnemann says "the symptoms in each individual case of disease must be the sole indication—the sole guide—to direct us in the choice of a curative remedy" (p. 120). Now, symptoms, although sometimes requiring special treatment, are but the visible signs and results of derangement and disease; while their removal, which is all that is aimed at in Homœopathic treatment, does not always ensure the removal of those conditions on which they depend. Thus, rheumatism, pleurisy, enteritis, worms, and many other disorders, frequently remain unchecked long after their symptoms have been relieved. Instead of thus vainly attempting the removal of symptoms, it were therefore more rational at once to remove (as is attempted by allopathists) the morbid condition—the source of the evil. *Causâ sublatâ, tollitur effectus.* The over-weening importance which Homœopathists attach to the symptoms of disease must often, we should think, lead them into difficulty. The same diseases and the same remedies sometimes induce the most dissimilar symptoms, and would, consequently, according to Homœopathy, require totally dissimilar treatment. On the other hand, cases of disease essentially different sometimes happen to manifest similar symptoms. Thus, stupor and vertigo result sometimes from an excessive and sometimes from a deficient quantity of blood sent to the brain; difficulty of breathing from too much as well as from too little blood circulating through the lungs; vomiting from irritation of the stomach, or from direct derangement of the functions of the vagus nerve; diarrhœa from crudities in the alimentary canal, or irritant matters in the blood. Now, in these cases, similar symptoms, although depending on unlike morbid conditions, must according to Homœopathy be combated by the same remedies; for it is written: "Diseases are cured by such medicines as have the power of producing, in healthy individuals, symptoms similar to those which characterise the diseases themselves" (Haycock's 'Elements,' p. 20). No provision, let it be remarked, is here made for cases in which the same symptoms result from different or opposite conditions; and yet we not only find the same symptoms produced by very different diseases, but also by the most opposite remedies. Strychnia and prussic acid, for example, although totally dissimilar in their *modus operandi* and general action

both induce convulsions, and should therefore, according to the tenets of the new system be equally suitable for the cure of convulsions.

I have been much astonished by the immense number of totally dissimilar diseases for which Homœopathists prescribe similar doses of the same medicine. Mr. Haycock, for example, recommends arsenic in forty-two of the sixty-six diseases of horses enumerated in his "Elements of Veterinary Homœopathy." If, however, there be any truth in the doctrine of Hahnemann, there must of course be "an accurate similarity" (Organon, p. 127) between the symptoms produced by large doses of arsenic, and those exhibited by each, and all of the forty-two diseases in which it is said to be serviceable. Nay, more, Hahnemann expressly states, as one of his "indubitable truths," that "the sum of all the symptoms in each individual case of disease must be the sole indication, the sole guide to direct us in the choice of a curative remedy" (Organon, p. 120); and if the "totality of the symptoms" in each of the forty-two cases mentioned indicates arsenic as a remedy, then surely one would expect to find some similarity in the symptoms of these different diseases. Yet who is there, Homœopath or Allopath, who can discover any similarity in the symptoms of such diseases as mange, bronchitis, enteritis, diabetes, tetanus, strangles, rheumatism, ophthalmia, poll-evil, and glanders,—all of which are said to be appropriately treated by arsenic. Nux vomica, according to Mr. Haycock, is serviceable in eruptions, catarrh, broken-wind, colic, tetanus, rheumatism, ophthalmia, poll-evil and glanders, with fifteen other equine diseases. What similarity, in the name of wonder, subsists amongst the symptoms of these diseases, or what similarity can almost any of their symptoms claim with those induced by large doses of nux vomica? Following up this inexplicable principle, sulphur is prescribed in twenty-six diseases, most of them as unlike as can be; belladonna in twenty-nine diseases, most of them so well marked as to be easily distinguishable by the veriest tyro; and aconite in thirty-two diseases, beginning with papular eruptions, including most affections of the respiratory and digestive organs, and ending with ophthalmia and glanders. If the "eternal," "universal," "immutable" law of Homœopathy, as embodied in the axiom *similia similibus curantur,* and expounded by Mr. Haycock or any one else, can be brought to explain these several conflicting circumstances, I shall cheerfully admit that it is possessed of properties of expansion, adaptation, and application, of a most extraordinary and incredible kind.

Glancing over Mr. Haycock's book, I have further been much struck with the great number of medicines of a totally dissimilar action used for the treatment of one disease. The "best remedies" for chronic cough amount to thirty-two, those for tetanus to fourteen, and those for glanders to nineteen. Homœopathic medicines must assuredly be of little avail when so many are requisite for the cure of one disease; for it is a notorious fact, that the employment of a large number of medicines for the cure of any particular malady is an invariable evidence of inefficiency in all the medicines used. With some of Mr. Haycock's cures I have been much amused. As to rupture of the stomach, he says, "if the matter is doubtful, the proper remedies are—aconite, nux vomica, arsenicum, bryonia, and others of a like nature," p. 226. This is almost of a piece with Mr. Matthew's capital account of a letter which was sent to an empiric in attestation of an infallible specific, and which ran thus:—"Sir, I was cut in two in a saw-pit, and cured by one bottle.—Yours, &c."

There is one part of Homœopathy which has been frequently held up to well-merited ridicule as utterly inconsistent with truth and common sense, namely, the *doses*. Tincture of aconite, bryonia, belladonna, sulphur, and other drugs, are given by Mr. Haycock to horses and cattle in doses of less than a drop or a grain, and confidently relied on for the cure of many serious diseases. (Haycock's 'Elements' *passim*.) But such doses, although many times multiplied, have no obvious influence on healthy animals. We can confidently assure Mr. Haycock that his practice would not lose one particle of any success which may at present attend it, if, enforcing attention to diet and regimen, he would consent to set aside his "diluted tinctures," "triturated medicines," and other inane nothings entitled Homœopathic drugs, and adopt the following practice of the Lamas of Tartary, as described by a French missionary, M. Huc. "If the Lama doctor," says that gentleman, "happen not to have any medicine with him, he is by no means disconcerted; he writes the *names* of the remedies upon little scraps of paper, moistens the papers with his saliva, and rolls them up into pills, which the patient tosses down with the same perfect confidence as though they were genuine medicaments. To swallow the name of a remedy, or the remedy itself, comes (say the Tartars) to precisely the same thing."—*Travels in Tartary, Thibet, &c., National Library*, p. 75.

Although Mr. Haycock's tenets are untenable, and many of the details of his practice unreasonable and nonsensical, still we doubt not that he will find many converts, and even

a few among regularly educated professional men. But this is not to be wondered at, for every kind of quackery and empiricism, no matter how absurd, finds numerous adherents. From the good old times of the elixir vitæ, to the days of spirit-rapping, Holloway's pills, Major's British remedy, and Homœopathy, hundreds of false systems have imposed upon the gullibility of mankind. And so it will ever be; for as Southey has well said, "man is a dupeable animal, and quacks in medicine, quacks in religion, and quacks in politics, know this—and live upon the knowledge of it." In an interesting paper on 'Mormonism,' in the last number of the 'Edinburgh Review' (April, 1854, p. 377), we find the following statements, which supply a most satisfactory explanation of the origin and spread of Homœopathy. "It may be laid down as an axiom that every impostor may at once obtain a body of disciples large enough to form the nucleus of a sect, provided he be endowed with sufficient impudence. This is true not only of religious empirics, but of all speculators on human credulity. What quack ever failed to sell his pills, if he mixed them with a proper quantity of mendacity? The Homœopathist, the spirit-rapper, and the phrenologist, each attracts his clique of believers. All this is only an illustration of the Hudibrastic maxim,—

'Because the pleasure is as great
In being cheated, as to cheat.'"

The motives which actuate men zealously to disseminate those errors which they have themselves embraced, are thus ably set forth in the 'Medical Gazette' for 20th January, 1843. There is, observes the writer, "a strong inclination in mankind generally to *assist* in propagating an imposition to which they have themselves yielded; both because it makes them objects of interest to the public, and because it appears to justify them in having given their confidence."

Like other Homœopathists, Mr. Haycock will probably endeavour to assert the superiority of his dogmas by setting aside all technical and scientific objections to them, and appealing triumphantly to the results of his practice. But such results, however satisfactory, are, as I have already said, by no means sufficient to establish the efficacy of Homœopathy. They merely show that many of the diseases of horses, as of men, arrive at a safe and speedy termination when subjected to judicious hygienic treatment. I have elsewhere suggested the only means by which the true value of Homœopathy as a mode of cure can possibly be ascertained (*Veterinarian*, April, p. 222). Writing of practice reminds me that Mr.

Haycock, towards the end of his paper, adverts, in no very complimentary terms, to the experiments made in Edinburgh with the Homœopathic system on the lower animals. These experiments, I may inform him, were carefully and honestly made, not by an Allopathist, but by a most accomplished Homœopathic physician and surgeon. They terminated, however, in disappointment and failure.

I might trespass still further on the patience of my readers by adducing many other facts and arguments, proving to any unprejudiced and rational man the truthlessness and absurdity of Homœopathy. This is, however, unnecessary, especially as the readers of this journal have already in their hands (see April number), a considerable mass of condemnatory evidence, which Mr. Haycock in his reply has for reasons best known to himself passed over unnoticed. Perhaps, to use his own words, he believed it to contain "a something not only pithy, but very damaging to the new doctrine."

In conclusion, I have to inform Mr. Haycock that I have been much flattered by his paper; for although a keen Homœopathist, a clever practitioner, and an ingenious writer, he has been unable to pick out from my four pages on Homœopathy a single respectable error, or to subvert a single statement. Taking exception only to what could at most be regarded as a verbal inaccuracy, Mr. H. has attempted to show that I had "entirely misrepresented the principles of Homœopathy," and has further politely styled my observations, "a farrago of stuff," and "a mass of absurd crudities." The former of these charges I have already endeavoured to disprove; the latter requires no comment, for the so-called "stuff" and "crudities" still stand unanswered and uncontroverted either by Mr. H. or any one else.

Edinburgh Veterinary College;
May 13, 1854.

PRONENESS TO EXOSTOSIS FROM EARTHY IMPREGNATION OF WATER.

By T. Orme Dudfield, M.R.C.V.S., Cheltenham.

[*Abstract of a paper read before the Veterinary Medical Association, Feb. 2d,* 1852.]

In a hunting stud at Cheltenham, numerous horses, in a series of years, became the subjects of those diseases, in com-

mon parlance designated *spavin*, *splint*, *ringbone*, &c. This occurred in my father's practice, and, for a considerable time, baffled all his investigations as to the cause. The disease had attacked the horses from a very early age; one was treated for ringbone, whilst scarcely more than a year old.

In general terms, it may be observed that, neither injury, excessive work, nor, worse than all, physical exertion in extreme youth, gave rise to this interesting pathological condition. The proprietor had too many horses to overwork any; and his fears prompted more than usual care in the management of his stud.

In 1851, my father discovered what he believes to have been the cause of this singular outbreak. By chance, tasting the water with which the horses were supplied, he found it of a peculiarly *earthy* flavour, and this led him to surmise, that an excess of calcareous salts might produce such morbid depositions. This idea was communicated to the owner, who, valuing any suggestion calculated to free his stud from the bane, immediately consented to submit the fluid to chemical analysis. The subjoined letter was the result:—

Bristol; *August* 3, 1853.

Sir,—I have analysed the sample of spring water you forwarded me, and I think, from the very large quantity of earthy salts it contains, that it will cause the deposits you speak of in animals. You will perceive that in an imperial gallon there are no less than 46·24 grains of earthy salts out of 52·16 grains total solid matter. Of these earthy salts 11·84 are earthy chlorides, which are readily decomposed in the system by the super-phosphates in the alimentary canal, depositing neutral phosphates, or bone earth.

Solid contents of an imperial gallon of 70,000 grains:—

1	Chloride of Calcium	8·80
2	„ Magnesium	3·04
	„ Sodium	4·00
	Organic Matters	1·92
3	Sulphate of Magnesia	3·68
4	Carbonate of Lime	15·36
5	Sulphate of Lime, with traces of Iron	15·36
		52 16

Those numbered 1, 2, 3, 4, 5, are earthy salts prone to decomposition in the system, but 1 and 2 particularly so.

William Herapath.

This reply was deemed satisfactory, as confirming my father's opinion, and indicated the proper mode of checking the disease, viz., by a prophylactic measure.

Since that date, the horses have drunk either rain-water, or water derived from a hill at a short distance from the town: and the beneficial effects of the change are manifested in the absence of any fresh cases. I think, the inference to be deduced from these facts is clear; viz., that the cause specified may occasionally, and *probably often does*, give rise to abnormal deposits of bone, not in the horse only, but in all domesticated animals.

My researches and enquiries having failed to elicit any cases of a similar nature, may we not justly award to my father the merit of a discovery, the importance of which the members of the profession will be best able to estimate?

*** There is a disposition in the economy of the horse, at every age, and in particular during youthhood, to pour forth bony matter, and especially after any injury to the bone itself. And, in the case before us, this propensity of the system appears to have been augmented by the fact of there being a superabundance of osseous or earthy material in the circulation ready to be poured out by the capillaries. The observation is very apposite, and may prove, as it has proved, a useful hint; whereof to Mr. Dudfield, *senior*, undoubtedly belongs the credit.—Ed. *Vet.*

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Traité Élémentaire de Matière Médicale, ou de Pharmacologie Vétérinaire, suivi d'un Formulaire Pharmaceutique Raisonné. Par L. Moiroud, Ex-Directeur de l'École Vétérinaire de Toulouse, &c. 2me Edit., Toulouse, 1843.

Traité de Matière Médicale et de Pharmacie Vétérinaires, Theoretique et Pratique. Par MM. O. Delafond, Professeur de Pathologie et de Matière Médicale à l'École Impériale Vétérinaire d'Alfort; et J. L. Lassaigne, Professeur de Chemie et de Pharmacie à la même Ecole. 2me Edit., Paris, 1843.

Nouveau Traité de Matière Médicale, de Therapeutique et de Pharmacie Vétérinaire, &c. Par M. F. Tabourin, Professeur de Physique, Chemie, Matière Médicale, et Pharmacie, à l'École Vétérinaire Impériale de Lyon. Accompagné de 82 Figures. Paris, 1853.

Here we have, lying upon our table, pretty well all that is worth possessing regarding modern French pharmacology. 'La Matière Médicale' of Bourgelât, and 'La Médicine Vétérinaire' of Vitet, constitute two works which now come into the category of *ancient*,—though both were highly prized in their day, and still remain valuable to us as books of reference; the modern works, comprising those of Lebas, Moiroud, Delafond, and Lassaigne, and the present one of Tabourin (whose titles are given above), being those, with one or two more, only worthy our regard.

We have so recently had under our hand the only two English works on Pharmacology we can boast of as worthy perusal, that the modern history of British pharmacology is soon told—such works as those of White, Blaine, and Youatt being made of too scanty and superficial descriptions of matters to make any pretensions to a place alongside of the

first mentioned. Indeed, it was not until the publication of Professor Morton's 'Manual of Pharmacy' that we possessed even a *manual* to teach us pharmacological veterinary science; nor was it until the subsequent appearance of Mr. Finlay Dun's 'Veterinary Medicines, their Actions and Uses,' that we were furnished with full development of the therapeutical department of the subject.

In the work of MM. Delafond and Lassaigne (the second on our list) we find the Preface composed of a history of pharmacological science, tracing from its earliest origin down to the present day; some superficial sketch of which may amuse, if not edify us. It commences with observing—

"As soon as man, by his art and skill, had tamed the wild animals which now constitute our domestic class, in order that he might feed on their flesh and their milk, clothe himself with their skins, and make use of their strength to cultivate the earth, carry his burthens, and bear the fatigues and perils of war—then it was that he began to think about their preservation.

"Exposed to various accidents, forced to make fatiguing journeys and to transport heavy loads, fed with provender prepared by man, these animals began to contract diseases, which one naturally thought about curing; and from this moment arose veterinary medicine. May we not also suppose that veterinary pharmacy dates its existence with pathology, and that from this period men possessed a notion of curing the diseases of animals? In fact, we must date from the epoch in which Aristotle lived the earliest notions of ancient veterinary pharmacy.

"In 1664, issued from the press the first edition of the 'Parfait Maréchal' of De Solleysel, Esq. De Solleysel was one of the Esquires of his time, fond of horses and hippiatric medicine, who had not only seen a great deal and been a keen observer of what he had seen, but had also read the works of eminent doctors, such as Hippocrates, Van Helment, Avicenne, and others, whom he frequently cited in his own work. Neither had he neglected to consult the works of Greek veterinarians, and French, as well as those of Italian hippiatrists, such as Giovdino, Ruffo, Caraciollo, Colombo, Ruini, &c. An accomplished practitioner and exact observer, Solleysel needed nothing save some anatomical and pharmaceutical knowledge; and it is to be regretted that this illustrious man had not studied the anatomy of Ruini, which, though very incomplete and inexact, would nevertheless possess the advantage of saving him from error.

"De Sauinier (Son), Esq., published, in 1734, his work entitled 'La Parfaite Connaissance des Chevaux.'

"In the year 1755, — Garsault, Esq., put to press his 'New Parfait Maréchal,' a work which took much, and run through four editions, the last being that of 1771.

"In 1765, Bourgelat founded the Royal Veterinary School at Alfort. In 1771, he died, and his works became the property of the State; two editions of them being published after his death, one in 1796, the other in 1805.

"La Fosse (Son), in his first work, in 1766, entitled the 'Guide du Maréchal,' treats of the diseases of horses and their method of cure; but he has nothing to say about formulæ or recipes.

"The celebrated Vicq d'Ayyr, in 1776, made an exposition of the curative and preservative means against pestilential diseases inhorned cattle.

"Vatel, ancient professor at the School of Alfort, published, in 1828, the elements of 'Veterinary Pathology,' followed by a 'Pharmaceutical Veterinary Formulary.'

"In 1834, appeared the elementary treatise of 'Materia Medica and Veterinary Pharmacology,' by Moiroud, former professor of the School of Alfort, and late director of the School of Toulouse. At the time when Moiroud undertook the *redaction* of this work, veterinary science possessed no more than the elementary treatise on Chemistry of one of us (Lassaigne). Pharmacy, properly so called, in the work of Moiroud, will be always consulted with advantage.

"In 1849, M. Bouchardat, pharmacien-en-chef of the Hotel Dieu at Paris, and, at the present time, Professor of Hygiène to the Faculty of Medicine, had it in contemplation to publish a veterinary formulary.

"Our own work is divided into two parts: the first treats of the collection, preservation and choice of medical plants, &c.; the second part is a methodical exposition of the proceedings in use for the confection of simple and compound medicine, and differs from the former formulary."

Closing this work, and opening that of M. Tabourin, we meet, in the Preface, with a more special history of veterinary pharmacology—one confined to works treating especially or exclusively on that science. These may be classed in two categories—ancient and modern.

"In the first class, we appear to have to place the 'Matière Médicale Raisonnée' of Bourgelat, and the 'Veterinary Medicine' of Vitet—two works which, although of very opposite merit, are two of importance, inasmuch as one may still consult them, though on no other occasions save as historical records.

"Among the modern works, greatly more numerous, we may mention, principally, the 'Pharmacie Vétérinaire' of Lebas, the 'Pharmacologie' of Moiroud, the 'Histoire Naturelle des Médicaments' by MM. Delafond and Lassaigne, the 'Thérapeutique Générale' of M. Delafond, &c. We are going to say a few words on each of these works.

"The 'Pharmacie Vétérinaire' of Lebas, of which the sixth and last edition appeared in 1809, has served as a useful guide for pupils and practitioners for upwards of twenty years, and this constitutes its best eulogium.

"The 'Pharmacologie' of Moiroud is still that which is found the most suitable for communicating knowledge of medicines. The descriptions in it are in general exact, tolerably complete, and of great clearness; though chemical details are redundant, and needlessly occupy a prominent place.

"Also, in a work entitled the 'Natural and Medical History of Medicinal Substances,' MM. Delafond and Lassaigne have given a description, in the first part, of the principal medicines used by the veterinarian; and in the second, have treated of theoretical and practical pharmacy, to which they have added an excellent formulary.

"To resume, we feel ourselves warranted in saying, without fear of being accused of partiality, that the 'Pharmacologie' of Moiroud, in spite of its imperfections, still remains the most suitable book for pupils for the study of materia medica, as it is taught in the Schools of Lyons and Toulouse.

"The 'Treatise on Veterinary Pharmacy' of Mr. Morton, which has run through four editions, has been kindly translated for us by M. Lecoq, the honourable director of the School of Lyons.

"The important memoir which Mr. Pereivall has lately published on the 'Effects of Medicine on Horses,' and which contains a vast number of experiments, has been rendered into French for us by M. Gourdon, chef de science at the Toulouse School.

"The most complete German work there is on the history of medicines is the excellent 'Treatise on Practical Pharmacology' of M. Hertwig, professor at the Veterinary School at Berlin.

"Our own work is divided into three distinct parts, forming as many special books.

"In the first book, under the head of 'General Pharmacology,' we have explained, as succinctly as possible, all that concerns the general history of medicines; while the second book, bearing the title of 'Special Pharmacology,' contains the description and particular history of all medicines used in the veterinary art, under the triple relation of pharmacology, pharmacy, and therapeutics. This is the part of the work to which we have consecrated most time and care, on account of its high importance and great extent, since it forms about three fourths of our volume.

"Lastly, in the third book, under the title of 'Pharmacy, or Pharmacotecny,' we have engaged ourselves on the pharmaceutical art, in the double point of view of theory and practice. After having treated, in a brief but substantial manner, on the harvesting, conservation, and preparation of simple medicines, we have carefully explained the art of compounding them, or methodically associating with them other medicines in order to make preparations of great complexity and utility—an important subject, scarcely broached in other veterinary works, though one that has been examined by us with a vast deal of attention."

Foreign Department.

GENERAL REPORT OF THE LABOURS OF THE SCIENTIFIC COMMISSION,

INSTITUTED BY THE MINISTER OF AGRICULTURE, COMMERCE, AND PUBLIC WORKS, FOR THE INVESTIGATION OF THE EPIZOOTIC PERIPNEUMONIA OF CATTLE.

A FATAL epizootic, under the name of the contagious peripneumonia of cattle, has for a long time been prevalent among cattle in various parts of France and other parts of Europe.

Confined, in former times, to various isolated regions of the mountains of Piedmont, Switzerland, Franche-Compté, the Jura, the Dauphine, the Vosges, the Pyrenees, and the Auvergne, the disease has not occasioned agriculture more than partial inroads, of which the public weal was hardly sensible.

But when, after 1789, the barriers became removed which limited the freedom of commercial relations between the different provinces of our territory; when, more than all, general warfare rendered necessary, for the supply of the army, the transport of large troops of cattle; then, did the epizootic descend from the mountains where it had so long lodged, and spread upon the plains with frightful rapidity, multiplying its ravages according to the large number of animals the war required and forced to concentrate on some determined point, and as the migrations became repeated from the various (mountainous) quarters. During the entire duration of the former reign, the same causes continued to favour the propagation of this fearful disease; nor has it since discontinued its ravages, notwithstanding the pacification of Europe. Brooding in the parts of the country into which it has been transported, it has continued to spread to one place after another, through the medium of commercial intercourse, until, on the day on which we are writing, the disease has arrived at that height of extension that it is found to rage with the greatest fatality among the bovine population of upwards of forty of our departments. These are, *Aire*, *Allier*, *Avignon*, &c. &c.

Nor are most other countries of Europe more free from this pest than our own. In Italy, Sardinia, Switzerland, Austria, Hanover, Sweden, Denmark, and, of late, in Holland and England, very considerable ravages have, the same as in France, inflicted public damage to an extent with difficulty to be repaired.

There has not yet been drawn up any general official statistics which would permit us to estimate, with any exactitude, the prodigious loss that has been sustained through the disease; though some documents in existence (already published) give, in most of the departments, accounts of them.

From information collected by three of the inspectors, we learn that contagion was to be regarded as the principal cause and first producer of the malady, in localities where it prevailed over a great extent of country.

Such opinion, however, though having for its basis, practical facts, of great importance for their number and accordance, had not the sanction of a scientific rigorous demonstration, on which account many persons refused their acquiescence to it.

Affairs remained in this condition when M. Dumas, Minister of Agriculture at the time, resolved to obtain a decisive solution of the question of contagion; and in order effectually to do this, he appointed a scientific commission to investigate

the point, to examine all the documents on the subject which had been transmitted to the administration of Agriculture, and to consider and point out the measures proper to be taken to put a stop to the ravages of the disease.

GENERAL RESUMÉ

OF THE EXPERIMENTS INSTITUTED BY THE SCIENTIFIC COMMISSION ON PERIPNEUMONIA.

The committee framed for their guidance two principal series of experiments, having for their object:—

1st. To ascertain the influence which the organisation of the healthy animal is capable of exercising in the course of their cohabitation with animals of the same (bovine) species suffering under peripneumonia.

2d. To investigate the effects of inoculation on healthy animals of the bovine class for peripneumonia, and especially to note if animals inoculated with the fluid (or virus) extracted out of the lungs of a beast affected with the disease, acquired by the inoculation such immunity from the disease as henceforth put him out of the reach of contagion. Subjoined is the resumé of these two series of experimental inquiry, together with the conclusions to which they lead:—

Experiments on Cohabitation.

In instituting these experiments, the committee proposed the solution of the following questions:—

1. Is epizootic peripneumonia susceptible of being transmitted by cohabitation from sick to sound animals?

2. In the case where contagion is found operative in this manner, do *all* the animals of the kind living in the same habitat of contagion contract the disease, or are there some who resist its influence? And, in the latter case, what proportion of animals fall sick, and what remain unaffected?

3. Among those which contract the disease, how many recover their health, and in what conditions? How many sink from the disease?

4. Are there any animals of the bovine species who prove decidedly opposed to the contagion of peripneumonia?

5. Are animals of this species preserved for the future from being attainted with this disease, when after a first cohabitation they have presented no more than symptoms of slight indisposition, and that consisting principally in a cough more or less persistent?

6. Are those animals who have contracted for the first time, more susceptible of taking the disease again ?

In order to obtain the solution of these questions, the committee have submitted to different proofs of cohabitation, 46 animals of the bovine breed, perfectly sound in health, and in such conditions of superintendence that they have never been exposed to the influence of contact of animals affected with peripneumonia.

These 46 subjects of experiment have been disposed of as follows :—

20, at Pomeraye (first experiment).
2, at Charentonneau (second experiment).
13, at Maisons-Alfort (third experiment).
11, at Charentonneau (fourth experiment).

Of this number,

21 animals have appeared insusceptible to contagion in a first trial of cohabitation.
10 have manifested transient indisposition,
15 have taken the disease.

46 total.

Of the 15 sick of peripneumonia contracted through cohabitation, 11 were cured, and 3 died.

Consequently, the number of resisting animals, to appearance, on the first trial of cohabitation, rose to .	45·65	out of 100
The animals insusceptible, to	21·73	„
That of animals sick and cured, at	23·91	„
That of animals dead, at	8·69	„

But if, in place of reporting on the external appearances of animals exposed to cohabitation, we take into consideration the results afforded through the autopsies, which have demonstrated that six out of the eleven animals placed under experiment at the farm of Charentonneau (4th experiment) had contracted the disease, we should find that we must reckon six animals more as falling sick after cohabitation, and six at least as resisting (contagion), which gives, in point of fact, the following results :—

15 resisting	32·61	out of 100
10 insusceptible	21·73	„
17 sick cured	36·95	„
4 dead	8·98	„
46	100·27	

Of these, 42 animals who were exposed to the first proofs of cohabitation made at Pomeraye and Charentonneau, and which escaped with their health or recovery, 18 were sub-

mitted a second time to the same proofs, and of these 18, 4 a third time.

These 18 animals became disposed of as follows :—

5 had contracted the disease at the end of the first cohabitation, and were cured,
9 proved refractory to the first influence of contagion,
4 experienced no other indisposition than that arising from the first cohabitation.

As to the 4 animals who were submitted to the first cohabitation, they made part of the category of those who had contracted the disease from the first contact, and who were cured.

None of the 18 subjects submitted to these fresh proofs, in such conditions, either contracted peripneumonia or presented even the slightest symptoms of indisposition.

From results obtained from such experiments of cohabitation, the committee have drawn the following conclusions :—

1st. That the epizootic peripneumonia of horned cattle is susceptible of transmitting itself through cohabitation, from sick animals to those in health of the same species.

2d. That all animals exposed to contagion through cohabitation do not contract peripneumonia ; there being some among them who thoroughly resist the contagious influence ; and others who do but experience, under such influence, a slight indisposition and one of very short duration.

3d. Among the animals who contracted the disease, some recovered, and obtained with their recovery every external appearance of health, while others succumbed.

4th. Such animals as presented symptoms but of slight indisposition after a first cohabitation, appeared preserved by this trial, for the future, against other attacks of peripneumonia.

5th. Animals who had been for once attacked with pneumonia, did not appear susceptible again of its influence.

Such are the general conclusions which the committee believed itself authorised to draw from such experiments of contagion through cohabitation. As to the questions of ascertaining what may be, in a herd exposed to the influence of contagion, the relative proportions of animals remaining resistent to contagion, of those who become indisposed, and, lastly, of those who contract pneumonia—and among these last what is the relation of the dead to the recoveries,—the committee have not contemplated uniting so large an assemblage of facts, in order to come to a conclusion that might express absolutely the conditions habitually passing in prac-

tice. It has confined itself here to the ascertainment of the amounts resulting from particular experiments.

From a summing up of these experiments, we find that 45 animals out of 100 have contracted peripneumonia through cohabitation, and that 24 have experienced slight indisposition: to resume, 65 have felt the influence of contagion in slight degrees, and 32 have shown themselves refractory to it.

The proportion of animals who have recovered every appearance externally of health, after having experienced the disease, has been at the rate of 83 out of 100 sick, and that of those who have died, of 17 per cent.

Experiments on Inoculation for Peripneumonia.

The questions the committee proposed to resolve under this head were the following:—

1. Is peripneumonia capable of being communicated to animals in health by inoculation with the blood, the saliva, matter flowing from the nose, and excrementitious matter coming from animals so affected?

2. Have animals who have been submitted to inoculation in one or other of these ways, contracted, through the inoculation, an immunity to a certain degree from the disease?

3. In cases where inoculation with the liquid fails to produce on animals an exact counter-action of the form and symptoms of the inoculated disease, as that is remarked in inoculation for every contagious disease, what are the local and general phenomena found to arise from it? In what proportion and intensity do such phenomena present themselves? What proportion of animals succumb from inoculation? How many recover their health after having been submitted to such tests, and in what sort of condition?

4. Such animals of the bovine kind as have experienced inoculation with pulmonary fluid, do they, through this trial, acquire any privilege of resisting the contagion of peripneumonia?

The experiments to resolve the question of contagion accruing from inoculation for peripneumonia with the blood, the saliva, nasal discharge, &c., having been performed but on six animals, the committee have not thought they were numerous enough to serve as a basis to rest any conclusion upon; and on this account have not taken them into calculation, but for memoranda. At the same time, the committee

have deemed it prudent to notice the circumstance of two cows having been inoculated with mucus from the nose, which afterwards were submitted to contagion through cohabitation, and yet have not taken the disease.

The experiments of inoculation with fluid extracted from the lungs of a beast affected with peripneumonia, have been performed on 54 animals perfectly sound, and in such conditions of looking after, that they have never been exposed to any contagion whatever. Here is the result:—

Of the 54 subjects inoculated, none have taken peripneumonia after inoculation.

On 33, the effects of inoculation have shown themselves only by a slight local and very circumscribed inflammation.

And in 21, this inflammation, consecutive of inoculation, has been very severe and extensive, and complicated with sanguineous phenomena, the consequences of which have proved mortal in 6 of the inoculated subjects.

Consequently the number of animals on whom inoculation has proved benignant, has been	61·11 per 100.
The proportion of them in whom gangrene has shown itself, as a consequence of inoculation; and produced the loss of the tail, is	27·77 „
And those who have died, are	11·11 „

So that 88·88 subjects out of 100 escaped, after having undergone inoculation, with their health, and recovered, while 11·11 succumbed to the consequences.

Of those 48 subjects who have undergone inoculation and have come out safe and sound, 2 have died from accident unconnected with this operation, and 34 have been exposed for a period of five or six months to the direct influence of contagion through cohabitation, with 24 subjects under the same management not inoculated, for the purpose of serving to make a comparison.

Twelve inoculated animals, who had been placed in a stable by themselves in order that they might serve for some ulterior experiments, were not exposed to any direct contact with animals having peripneumonia, though they were looked after by the same cow-man who had charge and care of those labouring under the disease. Of these inoculated subjects, one only (at the rate of 2 per cent.), living in a stable uncontaminated, contracted peripneumonia; whilst of the 24 animals uninoculated, serving for comparison, who were submitted to the direct influence of contagion at the same time with the 34 inoculated subjects, 14 (at the rate of 58 per cent.) with or without symptoms apparent, have felt the contagious influence.

From the results of these experiments on inoculation for peripneumonia, the committee have deduced the following conclusions:—

1. Inoculation with the liquid extracted from the lungs of the bovine beast labouring under peripneumonia, does not convey to animals in health of the same species any similar disease, at least in its seat, to that from which the inoculating fluid was taken.

2. The appreciable phenomena, consecutive on inoculation, are those of a local inflammation, light and confined to the place of inoculation, in a certain number of inoculated subjects; grave and diffuse, accompanied with a general reaction, proportioned to the intensity of the local action, and complicated with gangrenous befalments, in others of the inoculated subjects, so as to terminate by death in certain of these last. [In the experiments made by the committee, inoculation has proved benignant in its effects in 61 out of a 100 of the inoculated subjects, grave and complicated with gangrenous accidents in 38, mortal in 11; 88 subjects out of a 100 have consequently recovered their health after inoculation—61 without presenting any apparent traces of the operation they had undergone, and 27 with exterior local lesions, more or less extensive and marked, according to the intensity of the gangrenous affections to which inoculation had given birth.]

3. Inoculation with the fluid taken from the lungs of animals suffering under peripneumonia *possesses a preservative virtue*—it invests the organism of the greatest number of animals on whom it is practised with an immunity which protects them against the contagion of the disease for a period of time remaining to be determined, but which the experiments detailed above have not set at less than six months.

If, now, in order to appreciate the economical value of inoculation, of which direct experiment shows the preservative properties, we wish to compare the results which the practice of it has given in the different essays reported, with those which have been furnished by all the experiments on cohabitation related, here are the conclusions to which this approximation leads us:—

From a statistical estimate of these experiments, as made by the committee, it results on the one part that, out of 100 animals of the bovine species exposed to the influence of contagion through cohabitation, 32·61 are saved, and 21·73 only experience transitive indisposition, of little import to the general health, though considerable in the favorable

sense that it fortifies the animal for the future against attacks of the disease. May be in 54·34 subjects, on whom the effects of cohabitation have proved next to nothing or very light, 45·65 subjects contracted the disease to a degree more or less intense, of which 35·95 became cured, and 8·69 succumbed to the effects of the disease. While, on the other part, it results from experiments on inoculation made by the committee:—out of the same number, 100 animals, submitted to the proof of this operation, 61·11 have experienced nothing but very benignant effects from it; that it is more or less dangerous or altogether hurtful in its consequences for 38·88 subjects; that of these 38·88 subjects, 27·77 have become cured, after having suffered gangrenous affections more or less grave in character, and 11·11 have sunk from gangrenous superventions.

The following table presents to the eye the calculated results afforded by the two sets of experiments on inoculation and cohabitation instituted by the committee.

COHABITATION.		INOCULATION.	
Number of subjects of experiment being supposed to be	109	Number of subjects of experiment being supposed to be	109
Cohabitation will be *nil* in its effect, or very benignant for	54·34	The inoculation would be beneficial for . . .	61·11
And more or less hurtful for	45·65	And more or less hurtful for	38·88
In this last account, the recovery will be represented by	36·95	In this last calculation, the recoveries will be represented by . . .	27·77
And the deaths by . .	8·69	And the deaths by . .	11·11
As a definite result, the number of animals, departing from the tests of cohabitation with their health saved or recovered, will amount to from this calculation, on an average .	91·29	As a definite result, the number of animals departed from the tests of inoculation with their health saved or recovered, will amount, after this calculation, on on average, to . . .	88·88
And those of the dead at .	8·69	And that of the deaths to .	11·11

The first fact which strikes us in this table is, that inoculation has occasioned a greater mortality than the disease it was designed to prevent. Besides, we must take it into consideration that animals who have borne up against the gangrenous results of inoculation have still lost a great deal of the value they would fetch after their cure, in consequence of their not having recovered their health for a long while after being much reduced in condition, and remaining

for ever blemished, indeed, after a manner deformed, from the loss of a part of their tail; while, on the contrary, cows which under the experiments of the committee have contracted peripneumonia and been cured, have recovered at length very nearly their former value—the disease leaving no apparent trace behind it, nor having, in any way altered the aptitude of the animal either as regards lactation or fattening.

Still, it is but justice to observe, in order that we may comprehend all tending to the impartial settlement of the account of this grave question, that the greater proportion of animals who recover their aspect of health after undergoing peripneumonia, do not regain *completely* their normality. In an immense number of cases, as *post-mortem* inspection has shown, a part of their lungs, more or less in extent according to the extent of the disease they have laboured under, remains seized with veritable mortification. The lesion, it is true, continues isolated in the midst of the organ, sound everywhere else; it works around it a woof, remarkable enough, of sequestration, by virtue of which all communication is intercepted between the respiratory tubes and the mortified part, which in this manner also escapes putrid decomposition; which furnishes us with a reason how a lesion of such a nature can exist, in spite of its apparent importance, for a sufficient time, greater or less, with the conservation of the powers of the animal for making fat and milk; though such a mode of termination of pneumonia cannot, after all, be regarded as recovery in the rigorous sense of the word. And, in fact, it is but justice to say that in an economic point of view most of the horses who recover their health after having had the disease, though they experience but little diminution of value in the market, are, nevertheless, struck with lesions of that nature of an essential organ, which, in a physiological point of view, still is of considerable import, and may in the end make its influence felt, providing the animal should live long enough.

After this, ought we to conclude that inoculation cannot be recommended to be practised as a measure calculated to prevent the spread of peripneumonia, or as one affording owners of cattle any advantage over leaving the disease to take its own course among their herds as it habitually or naturally does?

Certainly not! for while, on the one hand, we must take into consideration what the awkwardness of first essays and imperfections, first procedures have enlarged, according to the experimentsof the committee, the losses and accidents which

the practice of inoculation may create; on the other hand, the average loss of 8 per cent., which, according to the same experiments, represents the mortality attendant on the catching of peripneumonia, is much inferior to that which expresses the loss produced by the natural course of the disease, under circumstances the most unfavorable and perhaps the most usual in practice: a difference explanatory, no doubt, of the rusticity of the greater number of subjects the committee have made use of in their experiments on contagion through cohabitation.

To conclude, although it does not follow as the result of the committee's experiments that inoculation be, in an economical point of view, an advantageous measure—still, as such experiments demonstrate its prophylactic virtue, in the face of so considerable a fact, the committee is of opinion that the practice of inoculation ought to be encouraged, and it entertains a hope that it will become of service to agriculture as soon as it shall become perfectionated in its applition, through further cultivation of it. The committee does not found this hope on its own experiments, yet it believes it its duty to equally regard results afforded by experiments either analogous to their own or practised in any other way—which have equally been undertaken in Holland and Belgium, and in the departments of the Nord and Pas-de-Calais, by scientific commissions, with a view of ascertaining the value of inoculation as a preventive of the epizootic pneumonia of cattle. An analytical *resumé* of the labours of these commissions is annexed to this, which we may give at another time.

Home Department.

CASE OF ACUTE GLANDERS IN THE HUMAN SUBJECT: WITH REMARKS.

By W. I. Cox, Esq.

[*Read before the Medical Society of London, March 18th.*]

That the peculiar malady called glanders is communicable from brutes to the human species is now a completely established fact in pathology. Such instances, however, having been hitherto very rare, the relation of each case of fresh occurrence, and of the facts and circumstances connected

therewith (illustrating either the essential characteristics of the disease itself, the mode and conditions of its contagion, or its appropriate and successful treatment), would seem to merit the attention of the medical profession. Emboldened, therefore, by this consideration, I venture to offer the following brief epitome of a case which fell under my observation during the past summer; with such remarks on its peculiar features, and the proofs of certain facts which I humbly opine it offers, as suggest themselves to me, and appear necessary to its elucidation. The plain statement of the case is as follows.

Case.—On July 15th, 1853, the wife of W. F., æt. 47, clogmaker, requested my attendance on her husband, whom she described as suffering from sore-throat and sore-mouth. Supposing it a case of common cynanche tonsillaris, I sent him a gargle of alum with honey, and an aperient powder. The next day I saw him. His symptoms were—profuse salivation (the saliva, in fact, pouring from his mouth, which was constantly open); the tongue was slightly swollen, and loaded with a brown mucus; the lining membrane of the mouth and fauces was foul and unhealthy; the salivary glands were somewhat enlarged. His pulse was quick and feeble, and he complained of want of sleep. There was no swelling of the tonsils, or of the arch of the fauces. In fact, he appeared to have been salivated with mercury, with two exceptions to the ordinary symptoms of that morbid condition; viz., 1st, the fœtor of the breath, which was great, was not that of mercurial ptyalism; and, 2d, the gums were not much swollen, nor were the teeth loose. Deeming, however, these deviations from the usual routine of symptoms more curious than important, and having met with a case in the country some years previously, wherein the same absence of the presumed diagnostics of mercurial salivation was observable, I judged it a case of this kind; and this opinion was apparently strengthened by the statement of the patient himself, that, feeling himself unwell a few days before, he had taken some pills obtained from a quack in the neighbourhood. I recommended him to use his gargle, as a wash for the mouth, diligently.

July 17th.—He was much worse. The salivation was more profuse, and there was much anxiety and general distress. He complained of headache, giddiness, and continued restlessness. The pulse was 120, feeble and precipitous. As the gargle did not seem to be of any service, and the bowels were unrelieved, I gave him another aperient, ordered him a warm gargle of chlorinated soda, and recommended a little

wine at intervals, or brandy and water. With this advice, however (having been a teetotaller for twelve years), he declined to comply.

July 18th.—At my morning visit I found him much worse. None of the local symptoms were ameliorated, and the constitutional disturbance had greatly increased. His difficulty of speech was such as to render his articulation almost unintelligible. He had been slightly delirious during the night, and said he should die. The case, I confess, now puzzled me not a little; I could not account for such severe and protracted disturbance of the circulation and nervous system, and such remarkable resistance to local remedies. On the afternoon of the same day, at the patient's own request, he was seen by Dr. Frederick W. Mackenzie. On hearing my account of the case, and from the similarity it seemed to present to others which he had previously seen, he immediately suspected it to be acute glanders; and he was confirmed in this opinion upon visiting the patient with me. Upon questioning him, the following history was elicited; the patient, however, not suspecting, and scarcely crediting, that it had anything to do with his illness.

About ten days previously, after breakfasting at six o'clock, he walked with a heavy load of clogs, &c., to Paddington (a distance of more than two miles), walked about there a good deal, and had nothing to eat or drink until between ten and eleven; when, on his way home, he called at some livery stables to see a friend who was employed therein. While there, he noticed a glandered horse, and felt faint and sickened by the effluvia proceeding from the animal. He remained a short time, (perhaps twenty minutes) and then returned home, and had thought no more of the occurrence. The next day he felt soreness of the mouth and throat, with slight salivation, which increased daily, up to the day on which he applied to me for advice

Dr. Mackenzie immediately advised the following:—ten grains of sesquicarbonate of ammonia, with five drops of tincture of opium, and one drop of creosote, to be taken every two hours.

I saw him again the same evening. He had taken two doses of the mixture, but declined continuing it, on account of the creosote. I therefore advised wine to be given freely during the night.

July 19th.—We found him slightly improved. There had been during the night a slight viscid tenacious discharge from one nostril; and on examination, a scab was discernible, evincing tendency to ulceration of the Schneiderian mem-

brane, which was also strongly injected. He was ordered to continue the mixture without the creosote, and to take beef-tea and wine.

July 20th.—He was much improved. He had had some sleep during the night, and felt hungry. The tongue was beginning to clean. The ammonia was ordered to be continued every four hours. Dr. Mackenzie resigned the case to my care.

From this date he steadily improved, but remained in a very weak and prostrated state for some weeks, showing the powerful shock sustained by the nervous system. I decreased gradually the dose of ammonia, both in quantity and frequency of administration, and combined with it citrate of iron.

About a fortnight from the period of his having recovered so far as to be able to go abroad, he complained to me of what he termed rheumatic pains in the limbs, and painful swellings in various parts. On examination, I found some swelling and tenderness of the lymphatic glands in the right axilla, both inguinal regions, and left popliteal space. These, however, gradually disappeared as he regained constitutional strength.

Remarks.—A careful consideration of the foregoing case suggests some remarks, which may be classed under five interesting points, viz.:

i. Diagnosis of glanders;
ii. Mode of communication;
iii. Predisposing causes;
iv. Peculiarity of the symptoms; and
v. Treatment.

i. Diagnosis.—The diagnosis of this terrible malady may often seem difficult, as is proved by the history of the various cases on record. The chief landmarks for our guidance appear to be—*first*, the history of the case when that can be procured, as showing the accession of the symptoms about twenty-four hours only after exposure to the influence of the virus; *secondly*, the localisation of the symptoms themselves, *i.e.*, their being limited to the salivary glands, tongue, and pituitary membrane; *thirdly*, the peculiar symptom of a thick and sanious discharge from the nares; *fourthly*, the tremendous disturbance of the nervous system, so unusual in ordinary cases of salivation, and out of proportion to the local distress; *fifthly*, peculiarity of the fœtor; and, *sixthly*, obstinate resistance of the disease to ordinary remedies, and its rapid yielding to diffusible stimulants in large doses. In most of the cases upon record, swelling and redness of the

face, generally with the appearance of phlyzaceous pustules on the skin, and redness of the conjunctivæ, have been noticed; and, of course, when present, must greatly aid in the diagnosis. But it is probable, I think, that their absence in the case of my patient may justly be attributed to the fortunate recognition of the malady by Dr. Mackenzie in a comparatively early stage, and its being consequently combated by appropriate remedies; and that had it been suffered to run its course unchecked, it would in its termination have been attended with the additional symptoms above named. Besides, from a consideration of the manner of communication of the morbid agent in this particular case (the next point for our observation), it may fairly be argued that the patient had imbibed (so to speak) only a small dose of the poison.

II. Mode of Communication.—This is a most important subject for our consideration with regard to the necessary prophylactic measures. It is, indeed, chiefly with reference to this matter that I venture to judge this case worthy your hearing; as I conceive it goes far to establish a highly important position. Until the publication of Dr. Mackenzie's interesting case in the *London Journal of Medicine* for September, 1851, no clear idea seems to have been entertained by writers on the subject, that the virus of glanders was communicable from the brute to the human system, otherwise than by the actual application of poisonous secretions of the affected parts of the animal to an abraded mucous or cutaneous surface; although, in several recorded cases, and in more than one of those of which a valuable abstract is given in the *Association Medical Journal*, No. 29, it appears that it was quite impossible to trace the source of the affection to direct inoculation; or, indeed, to account in any way for its accession. In Dr. Mackenzie's case, above alluded to, that gentleman states, "the patient assured me that he had no scratch or abrasion whatever of any surface;" and he suggests, therefore, that the disease was communicated to the patient, either by the application of the poison to a whole unabraded surface, or through the medium of the atmosphere, *i.e.*, by infection, *ergo* (he argues), direct contagion (inoculation) is not essential to the communication of the disease. This important principle, thus advocated by Dr. Mackenzie, was not recognised by Dr. Elliotson. Dr. R. Williams, in his elaborate treatise on the poison of farcinoma, gives no hint of his suspicion of its communication otherwise than by contact.

Dr. Eck, of Berlin, thus expresses himself:—"Though

the glanderous nasal discharge is recognised as the chief vehicle of infection, yet it can hardly be doubted that the contagion may exist in the other excretions; nay, that occasionally, as in damp stalls, infection may take place without any observable contact; *probably, through the medium of inspired air.*" This opinion appears to have been shared by Rayer, who says: "There are cases where no local results of inoculation are observed, the first symptoms being those of a general infection of the system." Still, this view is not generally adopted, as is evident from the following observation of Dr. Copland: "Whether or not it (the glanderous matter) is capable of producing the disease by being applied to the unabraded mucous surface, or by merely contaminating the air breathed by the unaffected, is *certainly not proved* as respects the human subject."

The case of my patient lends a strong confirmation to Dr. Mackenzie's views of the possibility of infection. In *his* case there still existed a doubt, as the matter might have come in contact with and been absorbed by an entire mucous surface: but in *my* case this certainly did not occur. The facts bearing on this point, which I afterwards gleaned from the patient, are these:—On entering the stable to see his friend, he did not approach any of the horses, but passed on to an upper department (which formed a slope or inclined plane), separated at its extremity, at the head of the building, by a depth of six feet from the animals themselves, in the lower or ground department—the edge being protected by a rail, over which he leaned whilst conversing with the stableman. He was thus at a distance of six feet from the glandered horse, the fœtid breath of which he doubtless inhaled as he leaned his head over the rail; inasmuch as he states he felt sickened thereat. Moreover, he was positive the animal did not sneeze during the time of his visit. It appears then from this evidence pretty clear that—

a. The atmosphere was the medium of communication; and

b. The distance of safety exceeds six feet.

The circumstance of this mode of communication of the morbid agent entirely explains the apparent anomaly of the absence of glandular swellings, abscesses, &c., usually observed in cases of equinia. When the poison is introduced through an abrasion or wound in any part, it naturally follows the course of the absorbents; and thus the local symptoms precede the constitutional. The reverse, of course, must occur where the disease (as in the present instance) is caught by infection.

Since the recovery of my patient, my friend Dr. S. Edwards has mentioned to me a somewhat similar case, which occurred some years ago in Edinburgh, of a man who was attacked with all the worst constitutional symptoms of acute glanders, shortly after he had passed some time in the neighbourhood of horses so diseased, but had taken especial care not to approach any of them. The man died.

Among the cases reported in the number of the *Association Journal*, already mentioned, there is one extracted from the *Gazette des Hôpitaux*, Dec. 14th, 1852, of a man who died of acute glanders; and the only proven fact in the history was, that he had lain in a room over a stable, but had not entered the stable itself, nor come in contact with the animals.

Dr. Mackenzie threw out to me the suggestion, that the obstinate affections of the throat and fauces, ulceration of the palate, destruction of the nasal bones, &c., which we often see occurring in the persons of ostlers, stablemen, jockeys, &c., and which are generally attributed to syphilis (an opinion which, by the bye, the sexually dissolute lives of this class of persons would tend strongly to confirm), may sometimes be due to the infection of the poison of glanders; and that, in fact, such cases are instances of chronic equinia, running a slow but destructive course. This idea appears worthy our consideration; and the following case (also from the *Association Journal* of the same date) lends weight to it. It is related by Dr. Tessier, of Lyons. A woman was admitted into the Hôtel Dieu at Lyons, presenting obscure but alarming symptoms, which, just before her death, were suspected to depend on the contagion of glanders. It was stated, however, she had had syphilis two years previously. The *post-mortem* revealed twenty-seven abscesses, two of them gangrenous; the pituitary membrane presented granular erosions infiltrated with pus, although there had been no discharge from the nostrils during her illness; the glands of the intestines were healthy, and the sexual organs showed no traces of having been affected with syphilis. The woman said she had never come into contact with horses, and had no transactions with grooms or coachmen.

III. Predisposition.—Dr. R. Williams says, "the farcinomatous poison, like many other animal poisons, does not infect all who may be in contact with it, but requires some peculiarity in the constitution, or rather predisposing circumstances, to produce the disease. In general, the parties who have contracted glanders have been of intemperate habits, or of indifferent health, at the time of their falling ill

of the disease." My case is, I conceive, corroborative of this opinion. It would appear (as indeed is consistent with facts connected with the absorption of various miasmata) that a certain amount of vital exhaustion or prostration is necessary to, or at least strongly favours, the development of the disease. The patient had breakfasted early, and during a morning remarkable for its sultry, oppressive heat, walked until quite fatigued, and was also wearied by a heavy burden; he had no food for six hours, and his stomach was consequently empty at the time of his being exposed to the chances of infection. The electrical condition of the atmosphere has, doubtless, much influence over the absorption of this or any other aërial poison. It may perhaps be supposed by some, that the fact of his being a teetotaller favorably predisposed him to the reception of the virus; but my own judgment and experience would be decidedly at variance with such an opinion. I have always found that total abstainers generally possess far more vigorous constitutions, far greater stamina, and consequently far greater powers of resistance to the reception of atmospheric poisons, than other persons accustomed to even the moderate use of alcoholic beverages. But perhaps you will deem this beside the question.

IV. PECULIARITY OF THE SYMPTOMS.—The sudden accession and somewhat peculiar character of the symptoms in this case, when carefully borne in remembrance, would direct our attention to them occurring in future instances, and excite suspicion as to their origin and real nature. Here we have a man, twenty-four hours only after being exposed to infection from a diseased animal, attacked with a train of symptoms which, although strongly resembling excessive mercurial salivation, yet presented some points of dissimilarity. The absence of the mercurial fœtor, of loosening of the teeth, the great swelling of the sublingual glands, the general sloughy condition of the lining membrane of the mouth and fauces, the prodigious amount of saliva secreted, the viscid discharge from the nostril, and above all the excessive affection of the nervous system (very similar to that observed in delirium tremens, as was noticed by Dr. Ballard), indicated by obstinate watchfulness and a tremulous rapid pulse; and the resistance of these symptoms to ordinary treatment, are sufficient, I imagine, to point out a marked departure from common cases of malignant sore-throat, stomatitis, or mercurial ptyalism.

V. TREATMENT.—This terrible malady having generally proved fatal, its successful treatment cannot but be considered as possessing a strong claim on our interest and atten-

tion. Only one case in fifteen of acute glanders recovered of those alluded to in Dr. Williams's treatise already quoted. Dr. Elliotson says, "all attempts to cure the acute form of the disease have hitherto failed;" and he gives the details of four cases, all of which proved fatal. The treatment he adopted was of a mixed and doubtful character, consisting of the administration of sedatives and wine. Rayer advises purgings and large doses of acetate of ammonia,—which is a favorite remedy with veterinary surgeons,—with local antiseptics, such as turpentine, creosote, &c. But all these remedial measures appear to have proved equally fruitless in *acute* equinia; in the *chronic* form of the disease, the tropical application of the more powerful antiseptics has been happily attended with greater success. In the cases of chronic glanders treated by Dr. Elliotson, the employment of a solution of creosote, injected into the nostrils, was attended with complete success. All the cases of acute glanders collected and detailed in the number of the *Association Journal* mentioned above proved fatal, with the exception of two under the care of Dr. Mackenzie, to which I shall presently more particularly refer. Dr. Cockburn's case, reported in the *Association Journal, No.* 12, terminated fatally, in spite of the most active and energetic remedies; these consisted chiefly of sedatives and hydrochloric acid internally, with poultices locally to the gangrenous pustules.

The treatment adopted successfully in the case of my patient, recommended by Dr. Mackenzie, is identical with that pursued by him, with the like satisfactory results, in the two cases above alluded to, which were exclusively under his care. The emetic of ipecacuanha, and the incising the Whartonian ducts,—two other remedial measures adopted by Dr. Mackenzie in previous instances,—were not put in force with regard to my patient, as not being required by the exigencies of the case. And I am of opinion, that the thanks of the profession are justly due to this gentleman for suggesting not so much, perhaps, the chief remedy itself (as we find mention of its *unsuccessful* exhibition by other writers), as the *proper mode* of its administration, so as to secure its full curative effects. In the report of his first case, which I spoke of in the commencement, Dr. Mackenzie says: "Ammonia is reported to have been given in glanders, but without success; and the same remark has been made with reference to its exhibition in scarlet fever. But it is not so much to the medicine as to the method of giving it, that we are, I apprehend, to look for beneficial results." I am sure you will all allow this to be a sound and correct position, and is, indeed, more or less applicable to the administration of all active

medicines, more especially in acute diseases. But this argument undoubtedly applies with greatest force to the treatment of a disease running a rapid and destructive course, and dependent in its origin on the presence of a septic poison, introduced into the system from without.

In such conditions, and especially in cases of equinia, the indication I apprehend to be,—to sustain the vital force in its conflict with the destructive chemical processes going on in certain tissues. And this can only be done by a stimulant, powerful in its nature, rapidly diffusible, and administered in such a manner as to keep up its full effect on the constitution. Ammonia, given in large doses, in a concentrated form, and at very short intervals, appears the agent best calculated to fulfil these requirements. Dr. Mackenzie, in his own cases, gave it every hour; in my own case, it was not judged necessary to give it more frequently than at intervals of two hours. Of course, this point must be left to the discretion of the practitioner in each particular case.

Dr. Mackenzie says: "This remedy and mode of exhibiting it, were suggested by the good effects which I had seen it produce when so given in malignant scarlet fever." And he quotes at length from Mr. Wilkinson's work on the disease in question, in allusion to the employment of the remedy by Dr. Peart, by whom it was originally recommended; and also his (Mr. Wilkinson's) experience of its good effects; also from Mr. Ricardo, of Bow, who used the remedy largely in the treatment of scarlatina maligna, and with the greatest success. So far as my limited experience goes, it decidedly confirms the views and statements of these writers. During the last three years, I have been in the habit of treating almost all cases of putrid sore-throat, scarlatina, and gangrenous erysipelas, accompanied with severe constitutional irritation, with ammonia in a concentrated form: and since so doing have lost but one patient, and that one could not be got to swallow the medicine. In fact, my confidence in the remedy is such, that I never despair of the recovery of any case of this kind, provided the swelling of the glands under the jaw has not proceeded to such an extent as to preclude the possibility of swallowing at all, but address myself to the treatment with confidence instead of despair.

Much stress has been laid by writers in general on the value of antiseptics in treating this class of maladies; of course their local application is rational and sanctioned by experience, but will by no means suffice for the cure. In the case of my own patient, for instance, powerful gargles of chloride of soda appeared to be of little service; but I have no faith whatever in the *internal* administration of remedial

agents of this nature, either in glanders or scarlatina. To the employment of creosote (which is, perhaps, the most powerful of the whole class), the offensive odour and burning nauseous taste of that drug offer an insuperable objection in all cases affecting children; and, I may add, that another powerful antiseptic, acetic acid, which was highly recommended a few years since in cases of scarlatina maligna, has proved a failure, and, I believe, is now pretty well discarded by the profession. The principal object of the exhibition of constitutional remedies in typhoid conditions of the system, whether that condition be the result of the absorption of glanders poison, scarlatina virus, or other materies morbi, appears, I imagine, to be clearly indicated, viz., to rouse the sinking powers, and sustain the vital forces, by the exhibition of appropriate stimulants given methodically and effectually: and not, as is too frequently the case, in such a manner that the cure is always beginning, and never progressing. In conclusion, permit me to throw out the suggestion: Does not the remedy which I have been advocating (namely, carbonate of ammonia in large doses) promise to be more efficacious than any hitherto tried in instances of poisoning by dissection wounds: at all events, does it not merit a fair and proper trial in future cases?

Kensall Town, London; *March*, 1854.

ON THE ORIGIN AND CIRCULATION OF THE NERVOUS INFLUENCE.

By John M. Strachan, M.D.

The question of the identity of the nervous influence with galvanic electricity has long been much disputed amongst physiologists, and much talent has been arrayed on both sides. A great deal of the difficulty in which the question has been involved appears to have been caused by the want of a clear understanding of the source whence the influence is derived. This is a point which, although of great interest and importance, has never been clearly established, and perhaps has never been properly investigated. Wishing to confine myself to this point, I shall, in the following remarks, take it for granted that the identity of the nervous influence with electricity is admitted.

The most prevalent opinion regarding the origin of the nervous influence is that it is generated in the brain and other nervous centres, and distributed through the body by the nerves. Before, however, we can be satisfied with this view, it is necessary to ascertain that the nervous centres can pro-

duce electricity, or, at least, that their capability of doing so is probable. But the very opposite of this is the case, there being scarcely a tissue of the animal system less likely to originate electricity than the substance of which the brain and spinal marrow consists.

I beg to suggest a source from whence this electricity may be derived, which appears to have at least this advantage, that the electric fluid in sufficient quantity may be obtained from it,—namely, the chemical action which is constantly going on in the change of arterial into venous blood. Other chemical actions in the system may assist in producing the requisite amount of electricity; but, for the sake of simplicity, it may be as well to confine our attention at present to the one which is probably the most important.

In every chemical action galvanic electricity is evolved; a large amount must therefore be produced in the animal system by the change of arterial into venous blood. The following is a condensed view of what is now generally admitted to be the nature of the change referred to. The blood, after being exposed to the influence of the atmospheric air in the lungs, acquires a large amount of oxygen, so that the iron which it contains exists in the highest state of oxygenation as the peroxide. On reaching the capillaries, the peroxide of iron comes in contact with carbon, which attracts a portion of the oxygen; by this the peroxide is reduced to the state of protoxide of iron, and the carbon is converted into carbonic acid. The protoxide of iron and the carbonic acid, thus produced, immediately unite, forming the carbonate of iron.

It is quite clear that by these combinations galvanic electricity must be produced in great abundance; and as iron does not enter into the composition of any of the tissues or secretions of the body, it is probable that the production of electricity is the only purpose of this mineral existing in the blood in such quantity.

The chemical changes referred to are effected in the vessels situated between the termination of the arteries and the commencement of the veins. Now it is demonstrable that wherever arteries terminate and veins begin, there also are nerves distributed, and as these consist of afferent and efferent fibrils, which have been proved to be conductors of electricity, we have only to suppose that the galvanism set free by the chemical action is taken up by the afferent nerves, and passing through the nervous centres, is returned by the efferent nerves to the same point, and thus a continued electric circuit is established, every modification of which must promote or retard the chemical change, and so influence

the circulation of the blood; and, on the other hand, changes in the circulation of the blood must have a powerful influence in modifying the electric current. There is thus a constant circulation of nervous fluid dependent upon the circulation of the blood; and just as the heart does not generate, but only distributes the blood, so the brain and the other nervous centres do not produce, but serve to accumulate, modify, and distribute the nervous influence.

This constant circulation of nervous fluid, in union with the circulation of the blood, is sufficient to give us an idea of organic life; and, perhaps, in some of the lower forms of animals this is all that exists. But as we rise in the scale of organisation, the animal system becomes a much more complicated machine, having a variety of functions. It is therefore necessary to inquire how these may be performed.

The experiments of various inquirers have rendered it probable that there are distinct nervous centres, and that to each of these belongs its own separate function. It is probable that these functions are performed, not as has generally been explained, by electric shocks communicated *from* or transmitted *to* the central organs, but by sustained and constant circuits of electricity produced by the changes of the blood in the capillaries, and by the modification of these currents by external or internal agencies.

On the supposition that the different nervous centres have separate functions, and that they all receive their electricity from the chemical changes of the blood, there comes the question whether each central organ has a completely distinct set of nerves, and that thus there are distinct nervous extremities, as well as distinct centres, for each function; or whether there is only one afferent and one efferent fibril accompanying each capillary of the arteries and veins, which, receiving the electricity, conveys it to the nearest ganglion, from whence it is partly returned to the same point, thus maintaining the life of the part; but that a portion of the electricity is transmitted along other nerves to the more distant central organs, thus forming a longer circuit of motion or sensation.

It seems to be an universally received opinion that sensation results from impressions transmitted by the nerves to the central organ; that motion, on the other hand, arises from an influence sent from the central organ to the extremities of the nerves, thus conveying the idea that these centres are more sentient and more capable of originating motion than the other parts of the nervous system. This idea of impressions being conveyed to and from the brain is contrary to

our consciousness, and this should be a powerful reason for doubting its truth. When I prick my finger, I am not conscious of any impression being transmitted to the brain; on the contrary, I perceive the impression in the finger, and only there. Why, then, should we suppose that we are conscious only of impressions that are conveyed to the brain? It is true that any obstruction in the nerves connecting the external organs with the brain destroys sensation or motion. But this only shows that, for these functions to be performed, it is necessary that the electric circuit should be uninterrupted. The mind, however, is as likely to perceive any modification of that circuit at the point where it occurs, as at the distant central organ. And in the same way, motion may arise from some change effected at the extremities of the nerves, and not from an influence transmitted from the brain.

Regarding those operations which are considered as mental, I would merely hazard a conjecture—namely, that the large development of the cerebrum should not be considered as a central organ, but as a development of peripheral nerves, receiving electricity from the capillaries of the blood-vessels of the brain, and that these nerves have their centre in the commissures. This organ, which thus consists entirely of nerves and blood-vessels, may be, in accordance with general opinion, the seat of mental operations.

If it were established that there is a constant circulation of the nervous fluid, such as has been described, it would render our conceptions of the nervous system as clear as those we possess of the circulation of the blood. The principle which governs it is the same as that of the galvanic battery, or a more apt illustration would be the electric telegraph, with its electricity conveyed by the positive and returned by the negative wire; and to carry out the comparison, the different nervous centres may be considered as so many telegraphic stations. There is this difference, however, that, instead of successive sparks of electricity, we have a sustained and continuous current, and consequently a provision in the circulation of the blood for keeping up a supply of the chemical ingredients necessary to maintain the stream.

If it were established that the circulation of nervous fluid is kept up in the manner described, it would improve our knowledge of the circulation of the blood, by showing a purpose effected by it even more important than the nourishment of the tissues; and we should then clearly understand the use of the oxygenation of the blood by respiration, to be the restoration to that fluid of the power of imparting electricity. —*Lancet.*

HOMŒOPATHY.

An Address to Lord Robert Grosvenor on the Fallacies and Fatalities of Homœopathy. By Charles Evans Reeves, B.A., M.D.

—But to return to Hahnemann. It is well known, at least in Germany, that before he discovered the law of similars curing similars, he was the proprietor of an all-healing remedy—the chief ingredient of which was borax, a substance of no remedial power. I have one of the papers which accompanied this medicine now before me. It promises wonders—"cures the gripes—prolongs life to beyond one hundred years—prevents the flesh from drying up, and the hair from becoming grey—makes the old man of seventy brisker than the youth of seventeen—the barren fruitful—and the pains of birth easy." It is, in fact, far more difficult to say what it did not, than what it did do.

But it proved a failure, from what reason I do not know; perhaps, because the stock-fish brain of Cousin Michael could not value the inestimable blessings thus offered to him for a few *groschen*. Somewhat later, I believe, he became an *urinal caster*, and told what disease ailed male and female by inspecting their water. The following anecdote I give on authority of Dieffenbach. A Bauer brought his wife's water to the docter that he might prescribe for her. While inspecting it, he managed to learn that she had fallen down stairs. Putting down the fluid, he said boldly, "She has fallen down ten pair of steps." "No," said the man, "she has fallen down sixteen." "But," said the sharp-witted doctor, "Is this all the water?"—"No." "That accounts for it: you have left six steps in the pot." The man, of course, went away deeply impressed with the doctor's acumen.

If we follow him in his career, we find him constantly drawing largely on the gullibility, as well as on the pockets of those who consulted him; for it was one of his maxims, and one which he never hesitated to avow, "that persons never valued medical men unless they paid largely for their services." He invariably promised a cure, if they did but take the medicine sufficiently long; for, like Sangrado, he held that persons died not of the disease, but because they had not taken his remedies a sufficient length of time—hence the lame were promised the agility of monkeys, the blind the keensightedness of hawks, and the barren the fecundity of two-year old sows.

THE VETERINARIAN, JUNE 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

The General Meeting of the Royal College of Veterinary Surgeons for 1854, held on the 1st of May last, for the first time in their new College (miscalled "Institute"), seems likely to stand on record remarkable for the paucity of the number of the members present. At the first commencement, such meetings were wont to amount to an approach to 100 members assembled; even so late as the year 1850, we find the number recorded to have attended to have been "between 60 and 70." At the last meeting it appears they did not exceed half that number. What the cause or causes may have been of so signal a falling off we are hardly prepared to say. One reason we can conjecture, which is, simply, that of the public announcement of the meeting being, perhaps, confined to a single insertion in the *Times*, and a like one in some other newspapers, in which the advertisements may not happen to have met the eyes of many men of our profession, whose engagements in practice prove an impediment to their reading the papers daily. We must confess, for our own part, we have seen no announcement of the meeting, though we usually see the daily papers; albeit such notice is needless to us, since we always carry in our minds the memorable passage of the charter—"the first Monday in the month of May."

Another hypothesis for the paucity of attendance we may imagine to have been operative on the occasion, is the circumstance, perhaps bruited about, of there being little or nothing "new" or ostensibly to do at the meeting—everything appearing to be proceeding so evenly and satisfactorily that nothing appeared to ask for alteration or interference. And although there was no doubt a caviller or two present, who would make a point of attending, still the meeting proved a tranquil one.

In his opening address, the President, Mr. Goodwin, had nothing to which he need call the attention of members as

happening during his tenure of office, save that the members now for the first time found themselves assembled in a habitation of their own, instead of being, as formerly, within the "Freemason's Tavern." The abstract of the proceedings of Council was then read, for which see "Report," page 309, *et sequent*.

In his concluding observations, he expressed his regret at the absence of two gentlemen. The first was Professor Spooner, whose absence he felt sorry (in which sorrow we unite with him) to say was occasioned by ill health; the other gentleman was Mr. Percivall, the editor of the *Veterinarian*, for the unavoidable absence of whom we will take upon ourselves to account, and we shall do so upon grounds which will, we trust, prove satisfactorily to our readers, as well as to the ex-president, that there was no design or intention on his part to be an absentee on such an important occasion. It is pretty universally known that the civil-*legal* power is, on all occasions and in all situations, paramount to military law, and so demands priority of attention. It is equally well, or might be equally well, known that *civil* concerns must give way to *military* ones, whenever there happens to be *no law* in the business, as was, in fact, the state of the case in the present instance. Such being the facts, it would have been wiser and more charitable in our President had he attributed Mr. Percivall's absence to some unavoidable hindrance, rather than to have seized on the occasion to throw a tilt at him for either unwillingness or "apathy" to be present at a meeting which is one of the professional body at large, and which takes place but once a year.

Touching the "Report," it adds little to a "relation of facts" already before us, concerning the house and its appendages, with their costs. The "Bill of Exemptions" is represented as being tantamount to being hopeless in expectation. But if the Council could devise, as they have already done for their Royal College, some *new* name for the veterinary profession, "the sole and exclusive use of it could be secured to the members of the body corporate." To this the same objection would be likely to apply as already ap-

plies to the degrading and illegal title of "Institute." We possess no legitimate right whatever to coin or alter names for our use apart from those prescribed to us by our charter. We are now and henceforth "one body politic and corporate, by the name and title of the ROYAL COLLEGE OF VETERINARY SURGEONS," and cannot and may not be made anything else; neither we ourselves, nor the house we, as a profession, officially reside and transact our affairs in, under the assumed and false title of "Institute."

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL COUNCIL MEETING, HELD AT THE INSTITUTION, *May* 10, 1854.

Present :—Messrs. BRABY, A. CHERRY, DICKENS, ERNES, FIELD, GOODWIN, GABRIEL, HENDERSON, Treasurer, PEECH, PERCIVALL, PRITCHARD, ROBINSON, SILVESTER, STOCKLEY, TURNER, and WITHERS.

W. ROBINSON, Esq., in the Chair.

The Minutes of the previous meeting were read and confirmed,—

Mr. A. Cherry drew attention to an informality which occurred at the last Annual Meeting, in reference to the election of seven Members of Council in the place of six Members retiring by rotation, and Mr. Mayer resigned. Seven gentlemen, it appeared, were elected, but it was not decided by lot which of the number should occupy the place of Mr. Mayer, the election, therefore, of the seventh on the list (Mr. Gowing) was invalidated; but as the Council had power to fill vacancies *pro. tem.*, Mr. Cherry now gave notice that he should move at the next Meeting that Mr. Gowing be elected in the place of Mr. Mayer.

The Secretary read letters from Mr. Gowing, and Mr. Lacy, of Adbolton, accepting office as Members of Council, and a letter from Mr. Lizars tendering his resignation as a Member of the Edinburgh Board of Examiners; and also laid on the table a list of 40 volumes presented to the library by Mr. Peech, of Wentworth.

Mr. Henderson then proposed the election of Mr. Field, as

President of the Royal College of Veterinary Surgeons for the ensuing year, than whom, he said, he thought it impossible to choose a person better qualified to fulfil the duties of that office.

Mr. Peech seconded the nomination.

Mr. Percivall, thinking the compliment should be paid to the Senior Members of the profession (as in the case of Professor Sewell), proposed Mr. Stockley as President for the year.

A ballot was then taken, and the votes were as follows:—

Mr. Field	12
Mr. Stockley	2
Mr. Percivall	1

The Chairman declared the election to fall on *Mr. Field*, who, on taking the Presidential Chair, said he felt that there were many around him more deserving of the honor than himself; but as it appeared to be the wish of the Council that he should fill the office of President, he would promise to do his utmost to give satisfaction to the body at large.

A ballot was then taken for the election of six Vice-Presidents; and the result was as follows:—

Mr. S. Robinson	15
„ W. Mayer	14
„ C. Percivall	12
„ Hales	9
„ Weeks	8
„ Lepper	7
„ F. C. Cherry	7
„ Goodwin	6
„ Stockley	2

The President declared the election to fall on Mr. Robinson, Mr. Mayer, Mr. Percivall, Mr. Hales, and Mr. Weeks; and Mr. Cherry, and Mr. Lepper, having an equal number of votes, he gave his casting vote in favour of Mr. Cherry.

Mr Gabriel was unanimously re-elected Secretary.

Cheques were ordered for the following sums:—Board of Examiners, £75 12*s.*; Edinburgh Board, £20; Petty Cash, £20.

Mr. Robinson, Mr. Peech, and the Secretary, were named by the President as the Committee of Supervision, and the proceedings terminated.

William Robinson
Sam. Peech
E. N. Gabriel.

The following gentlemen, having passed their Examination before the Board of Examiners appointed by the Royal College of Veterinary Surgeons, have been admitted Members of the Body Corporate.

May 10th.

Howell William Laurie Crafts, Blandford, Dorsetshire
Thomas Wilkes, Cardiff, Glamorganshire
William James Bland, Boston, Lincolnshire
John Bell Henderson, London

May 11th.

Edward James King, Pulham, Norfolk
Frederick Bailey, Leicester
Joseph Norris, Crediton, Devon
Ebenezer Hewlett, Astley, Manchester
William Buckeridge, Hungerford, Berks
Thomas Cave, Carlton, Nottingham
William Death, Purchingfield Park Farm, Essex
Edward Acton Gibbon, Ludlow, Shropshire
John Baldock, Cropwell Butler, Nottinghamshire
William Nelson, Sheffield, York
George Nicholson Broderick, London
Henry Corby, Hackney, Middlesex

May 17th.

Joseph Hubbick, Alnwick, Northumberland
James Taylor, Manchester
Thomas Aubrey, Salisbury
Samuel Tremlett, Crediton, Devon
James Austin, Ilminster, Somerset
John Darcey Peech, Pontefract, Yorkshire
Alfred Watson, Moretonhampstead, Devon
James Henry Boreham, London

Edinburgh, May 17th.

Ralph Allan, Edinburgh
James Bowie, Howick.

OBITUARY.

This day, 29th of May, 1854, has brought us the sad intelligence of the sudden decease of a much beloved and universally respected brother of our profession, Mr. Alexander Henderson, Park Lane, London; a residence his ancestors and himself had occupied for upwards of a century. At this late hour, we can no more than in lamentation add—

"Death, a necessary end, will come when it shall come."

THE

VETERINARIAN.

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HOMŒOPATHY *v.* ALLOPATHY.

A Reply to certain Strictures on Homœopathy written by Mr. Finlay Dun, Lecturer on Materia Medica at the Edinburgh Veterinary College. By W. Haycock, V.S. M.R.C.V.S., &c.

"The poet that beautified the sect, that was otherwise inferior to the rest, saith yet excellently well: 'It is a pleasure to stand upon the shore, and to see ships tossed upon the sea; a pleasure to stand in the window of a castle, and to see a battle, and the adventurers thereof below; but no pleasure is comparable to the standing upon the vantage ground of truth (a hill not to be commanded, and where the air is always clear and serene), and to see the errors and wanderings, and mists and tempests, in the vale below;' so always that this prospect be with pity, and not with swelling pride."—Lord Bacon.

Sir,—In my last communication I proved that the explanation which Mr. Dun had given as to what homœopathy is, was an erroneous one. I proved that his error consisted in substituting the word *same* for the word *similar*. My opponent designates this a "little matter," little it may be in itself, but trifling it is not, for upon the right use of this said word similar, depends, in the present instance, the truth or falsehood of the question at issue. It is of no use my opponent endeavouring to shirk this matter; our dispute is simply this, has Mr. Dun, in the explanation which he gives of homœopathy, given a true explanation? I have, I again assert, proved that he has not, and it would have been not only more courteous, but also more honest in Mr. Dun, if he had confined his remarks in reply to my last communication, to the matter at issue; instead of which, sir, I find six or seven pages of your journal occupied with what cannot be designated by any other name than allopathic clap-trap of the very oldest kind, viz., groundless charges respecting homœopathists not cultivating pathology; that they pay too much attention to mere symptoms; after which we are favoured with a number of comparisons between homœopathy, phreno-

logy, mormonism, and spirit rapping, &c., and ending, of course, with a quotation from Hudibras; the whole of which is very witty and amusing, and doubtless with many, will appear vastly clever, and excite, in no small degree, their risible faculties; but with all due deference, Mr. Editor, to the good sense of your readers, I contend that such matters are totally irrelevant to the original ground of dispute, and are therefore unworthy of my serious attention; but granting, for the sake of argument, that mormonism, and spirit rapping, and phrenology, are false systems, which "have imposed upon the gullibility of mankind," does it follow from this that *homœopathy* is false? what on earth have these matters to do with our dispute? It is a simple thing to assert a doctrine to be false, but it is quite another affair to prove it so. I asked for proof, that the law of cure which Hahnemann has given to the world, is a false law, and instead of proof to this effect, the reader is entertained with stale witticisms about mormonism, the Lamas of Tartary, Major's British remedy, and with a quotation from Hudibras, a thousand times before quoted by almost every newspaper scribbler in the kingdom; really, I must confess, that from Mr. Dun, occupying as he does the position of lecturer for the purpose of teaching his fellow man, really, I say, something better was to have been expected. The very arguments which he has favoured us with have been adduced hundreds of times before, and as oft refuted. There is nothing whatever in them which at all damages homœopathy, and, what is more, they are altogether foreign to the dispute in hand: this I do not ask the reader to take my word for, but I ask him to carefully read what I have written in the *Veterinarian* for May, and also the pretended reply to such in the same journal for June, and he will perceive that what I state is really the fact.

Having premised the above with reference to what, strictly speaking, is the ground of our dispute, I will now endeavour to examine the objections contained in that "considerable mass of condemnatory evidence," which I am told, for reasons best known to myself, I have "passed over unnoticed."

Now I will tell my opponent why I passed over his objections;—in the first place, I clearly proved that his premises were (this, if he be a candid man, he must himself admit) erroneous, or, in other words, that his explanation of the Hahnemannic law, was a false explanation; and when the premises of an argument are found worthless, why, of course, the conclusions drawn from such premises are, generally speaking, equally worthless; so that in disproving the former, the latter are considered to be disproved also; and, in

the second place, I consider them so futile as to scarcely merit the trouble which would be incurred in their refutation; however, as Mr. Dun seems to insist upon my noticing them, and evidently considers that they contain a something, not only pithy, but very damaging to the cause I advocate; and as he also concludes his answer with a boast that "such arguments stand unanswered and uncontroverted either by me or any one else," I suppose I must notice them, if for no other purpose than merely to pacify the gentleman.

The objections to which my opponent refers are contained within the introductory portion of his book, on 'Veterinary Medicines, their Actions and Uses,' to which I beg the reader to refer, at pp. 8, 9, 10, and 11, or if the book is not in his possession, see *The Veterinarian* for April, pp. 220 and 221 of the present year.

These objections are of a threefold kind, the first of which relates to the physiological action of medicines upon the healthy organism. The second, to the smallness of the homœopathic dose, and what, as a matter of course, my opponent would designate its utter inefficiency to cure disease; while the third relates to dietetics. This latter objection is put forth, more as an affirmative, *i. e.*, as an attempt on the part of my opponent to explain the mode by which patients are cured of disease, when supposed to be under the influence of homœopathic treatment.

OBJECTIONS OF THE FIRST ORDER,—PHYSIOLOGICAL ACTION OF MEDICINES.

My opponent informs us that the law of cure, by which every homœopathist professes to be guided when treating disease, is "*unsupported by adequate facts and arguments, and is quite insufficient to account for the action of most remedies*," and in support of the above, he has written a series of statements, which, be it distinctly understood, are entirely the offspring of his own inventive genius: he says, that oil of turpentine destroys "lumbrici, and other intestinal worms," but does not produce them. That sulphur is "one of the best remedies for removing lice, and many skin diseases, *but does not produce either*." That "arsenic, iodine, and belladonna, are homœopathic remedies for thick wind; yet none of these, nor all of them together, produce thick wind." That "aurum, arsenicum, bromine, and various other substances are given in glanders, farcy, and consumption; yet none of these, nor, indeed, any other medicine, is known to cause any such complaints.

That cinchona "does not cause, in the great majority of cases, any symptoms at all analogous to fever, and never produces the intermittent fever which characterises ague." That "lemon juice cures, but does not produce scurvy." That "iodine removes glandular enlargements, but does not cause anything at all analogous to them." That "aconite, when given in allopathic doses, reduces the pulse, and counteracts inflammation, but fails entirely to cause plethora or inflammation in healthy individuals."

Such are the statements put forth by my opponent in the first instance, while in the *Veterinarian* for June, he there not exactly reiterates them, but they are sent forth in a somewhat modified state; he says, p. 324, that the above-named medicine "with many others, certainly do *not* induce any affections at all *analogous* to those in which they are administered."

Ere I proceed, however, to adduce facts in support of my position, or to prove that such medicines as I have enumerated *do* produce affections when taken within the healthy organism, in every respect clearly analogous to those diseases in which they are administered, I must in one or two respects, beg to coincide with my opponent, viz., that neither arsenic, iodine, nor belladonna, will, that I am aware of, produce *thick wind;* nor aurum, arsenicum, nor bromine, glanders, farcy, or consumption; nor sulphur, lice; nor turpentine, worms; but, when I thus express my concurrence, I must, at the same time, again remind him that they are statements entirely of his own fabrication, and that if ever he wrote them under the serious impression that homœopathists believed them as facts, that he was deluding himself most egregiously: they do not believe any such thing,—they nowhere state such a belief, and I challenge my opponent to the proof. The Hahnemannic law is not that *the same thing cures the same thing*, but it is *not* that SIMILARS CURE SIMILARS. The difference between the word *similar* and the word *same*, I have elsewhere explained in the sense in which homœopathists understand it, so that I trust the matter is now sufficiently clear to enable me to proceed with perfect ease.

The facts I am about to adduce in aid of the doctrine which I advocate, I shall, for the most part, select from allopathic authority, so that, if my opponent thinks proper to challenge their truth, he and they must settle the matter between them: he cannot hold me responsible for what may be written by his own party.

OIL OF TURPENTINE we are told "destroys lumbrici, and other intestinal worms, but no one will assert that it is

capable of producing such parasites, in what doses soever it may be given." If this statement be put forth as a damager to homœopathy, it is utterly worthless in more respects than one. Worms themselves are not diseases, they may either manifest themselves when the digestive organs present states of disease favorable to their development, or, they may, when present within the alimentary canal, be productive of a variety of symptoms, by which their existence is known, but in neither case can the parasite itself be spoken of as disease. That turpentine will destroy worms, is simply a fact, and if the presence of worms within the alimentary canal was *alone* the cause of the disorder which may attend their presence, why, of course, their removal will be attended by a speedy restoration to health. A worm is a worm, and a disease is a disease, and I must confess my surprise that Mr. Dun should fall into so palpable a blunder as to assert their identity.

SULPHUR, says my opponent, "is notoriously one of the best remedies for removing lice, and many skin diseases, but does not produce either." That the application of sulphur to the skin will not produce lice I admit, but lice in themselves is not disease, but when we are told that sulphur will not produce disease of the skin, we are told what is notoriously untrue. Erasmus Wilson, in his 'Treatise on healthy Skin,' paragraph 198, says,

"Sulphur has obtained the credit of being a specific for itch, and so it undoubtedly is when properly applied," and in the same paragraph he adds. "But sulphur, besides being a stimulant, is also an irritant to delicate skin, or, if its *use be prolonged*, may be the occasion *of an eruption similar to the eruption of itch.*"

The power of sulphur to excite eruptions of the skin, similar to itch and other affections in which it is given, can be doubted by no one who has visited the sulphur baths of Germany, where the "bath rash," as it is termed, is one of the most constant effects which those who drink the waters, experience.

Krimer, a German physician, says,

"Sulphurous baths often produce the very disease which they are employed to cure," *Hufeland's Journal*, for the month of August, 1834, p. 9.

I could adduce other examples equally pertinent with the above, but I consider them sufficient for the present occasion.

"ARSENIC, IODINE, and BELLADONNA, are homœopathic remedies for thick wind, yet none of these, not even all of them together, produce thick wind."

Should the reader possess a copy of my work, entitled

'Elements of Veterinary Homœopathy,' and if he will take the trouble to turn to pp. 194 and 195 of that volume, he will find that I prescribe the above-named remedies for the disease in question; and it is from this source my opponent appears to have derived his hints; he has, however, failed to supply the reader with the facts upon which I base my recommendation of its use in this affection; I will, therefore, take the liberty to do so myself, by which means a correct judgment can be formed as to whether or not the medicine he prescribed upon the principle involved in the Hahnemannic law.

"Thick wind," I state, "is an affection which is very apt to supervene upon an attack of influenza or bronchitis, or, in fact, upon any form of epidemic disease which may exert its force upon the air passages. I look upon this affection, when arising from the causes enumerated above, *to depend upon nervous debility, and upon the existence of a low inflammatory action within the mucous tissue of the larynx, trachea, and bronchi.* Now, arsenic causes nervous debility, and also an inflammatory action upon the mucous membrane of the bronchi, of this we have an abundance of proof, and it is for these *similar* states which I believe to be present in thick wind (when arising from the source I have intimated), that I recommend arsenic. In a volume entitled 'An Abstract of the Proceedings of the Veterinary Medical Association for 1840 and 1841,' p. 128, an account is given of several cases of poisoning by means of arsenic; it is contributed by Mr. Tombs, veterinary surgeon, of Pershore, he describes the symptoms as follows: 'pulse 105; *respiration laborious, deep, and accelerated*;' afterwards he describes the breathing as having become '*exceedingly laborious*,' while the *post-mortem* appearances are described as follows: '*congestion*,' and '*increased vascularity*' of the mucous membrane of the air passages, '*also of the pleura pulmonalis and costalis.*'"

Again, in the *Veterinarian* for 1844, p. 23, is an account of poisoning of sheep by arsenic,* in which

"The larynx, trachea, bronchi, and parenchyma were much inflamed."

We are also told by Mr. Dun in his work, 'Veterinary Medicines, their Action and Uses,' "the *post-mortem* appearances of poisoning by arsenic, are very similar in all animals." . . . . . "The lungs are usually congested, and their mucous membrane, as also that of the urino-genital organs, is very red and vascular." Again, Dr. Black, in an article which he has written upon arsenic, says, "when a powerful impression has been made by arsenic on the system,

* Communicated to the '*Veterinarian*,' by Professor Dick.

it generally continues through life, as shown in chronic dyspepsia, oppression of the chest, or paralytic symptoms." It is also notoriously known to both surgeons and veterinary surgeons, that arsenic produces *great nervous debility*, even at times so excessive as to give rise to paralysis: from such facts, then, together with what I have adduced, I have clearly proved that the use of arsenic in thick wind is strictly in accordance with the law of *similars*, and that whatever benefit may accrue from its use in such cases, that it is strictly due to its operating within the sphere of the said law.

Iodine is another remedy which I prescribe for thick wind; the physiological action of which is thoroughly homœopathic to the affection arising from the causes to which I allude. With reference to the action of iodide of potassium, Dr. Laurie, of Glasgow, in the 'London Medical Gazette' for July, 1840, says:

"The mucous membranes of the eyes and air-passages are especially liable to become affected; in one instance, the employment of the medicine was followed by *dyspnœa* and loss of voice." "In a third case by fatal dyspnœa; in a fifth by sore throat, acute *dyspnœa*, and hoarseness, with fatal result." Perhaps I may be told that iodide of potassium is not iodine, but then as answer to this I have the authority of my opponent for saying that "iodide of potassium closely resembles iodine in its actions and uses.*

Again, Jahr, in his 'Materia Medica,' gives the symptoms of a case of poisoning with iodine where there was "violent difficulty of breathing, which remained for a fortnight."

"Cinchona does not cause, in the great majority of cases, any symptoms at all analogous to fever, and never produces the intermittent fever which characterises ague."

In the above quotation, we have two distinct affirmations, the one is, that cinchona does not in the great majority of cases, produce any symptoms at all *analogous* to fever, and the other is, that it "never produces the intermittent fever which characterises ague." In answer to the first affirmation, a single line from 'Pereira's Materia Medica,' p. 1404, will settle that: "Cinchona produces," says he, "a febrile state of the system."

Before proceeding to the latter affirmation, it may be as well to know what are the peculiarities in connection with ague by which cinchona holds so distinguished a rank as a curative agent. Ague is a disease which, when fully developed, according to medical writers, consists of a three-fold character. It presents what are called the cold, the hot, and

* 'Veterinary Medicines, their Actions and Uses,' p. 335.

the sweating stages (modifications and differences in this respect may exist, but as a general definition, it will be understood). The sweating stage is the last stage, from which the ordinary functions peculiar to the body gradually return to their normal state. When the malady is severe, and effects the system for a long period, disease, we are told, is liable to supervene within the internal viscera; the appearances in fatal cases upon dissection, being congestion and enlargement of the liver and spleen—pulmonary congestion —also congestion of the brain, spinal cord, &c. Now let us see how the physiological action of cinchona stands with regard to this malady.

Stahl, in his 'Diss. Problem. de Febribus,' states that it causes irregular acute fever, with very excessive perspirations. Morton states the same; Schlegel says that it causes febrile heat, that is followed by debilitating perspiration.—'Hufland's Journal,' vol. 7, part iv, p. 161.

Fr. Joseph Wittman, in an essay on sulphate of quinine, that obtained a prize, May 21, 1825, from the Medical and Scientific Society of Haerlem, details many experiments in which it is shown that, when administered in certain doses to a person in health, it produces a disease *resembling ague*.

Professors Lüders, physician to the hospital at Kiel, states, that enlargements of the spleen, dropsy of the feet, and nervous disorders, often follow the incautious use of quinine. —*Med. Chirurgical Journal* of Erhardt, vol. iv. p. 90.

Again, Menard says, that 30 to 40 grains, given in cases of intermittent fever, will almost certainly cause enlargements of the liver and spleen, or dropsy, and he advises that the largest doses shall not exceed 10 or 12 grains.—*Bulletin de la Soc. d'Emulation de Paris, Janvier* 1821.

Two years later than this, or in 1823, Menard, in the *Revue Médicale* of the month of November, repeats his statements, wherein he remarks that several cases had come under his observation, where the paroxysms of intermittent or remittent fevers had been speedily cut short by the exhibition of quinine in large doses; but after several days, the disease had sometimes returned, and attacks of inflammation or *engorgements of the liver or spleen* had frequently supervened on the sudden arrest of the febrile paroxysms. He states that he has observed inflammation and obstructions of these organs to have been so frequently followed by dropsical affections, that he considers these last diseases to have become more common since quinine has been generally employed.

Dr. Parr says, that large doses of bark causes those infarcations styled ague cakes, *i. e.* engorgements and enlargements of the liver and spleen.—*Med. Dict.* vol. i, p. 825.

One more quotation upon the physiological effects of cinchona, and I have done with it. I dare say, my opponent has heard of Dr. Routh, a physician who wrote a book during the latter part of 1851 or the commencement of 1852, entitled "Fallacies of Homœopathy." Possibly my opponent may even have the book, and that he may have read the following:—"*Now bark*," says the Doctor, "*certainly produces symptoms, as alleged by Homœopathists, very like those of ague.*"

"*Lemon juice* cures, but does not produce scurvy." Possibly it may not; but, nevertheless, it is well known to be capable of producing a derangement within the system very similar to it.

"During a residence of twenty years in the West Indies," says Dr. Stevens, "I have only seen one case of scurvy, and that case *was decidedly brought on by the excessive use of citric acid*, which an American gentlemen had been recommended to use as a preventative against the yellow fever. His own conviction, as well as mine, was, that the scorbutic symptoms had been brought on by the acid. This was immediately laid aside, and by the use of carbonate of soda, he was completely cured in three weeks."—'*Observations on the Healthy and Diseased Properties of the Blood*,' by W. Stevens, M.D., p. 451.

Again, Pereira observes, p. 1686, "On hypothetical grounds alone, Dr. Stephens ventures to assert that citric acid produces scurvy."

"IODINE removes glandular enlargements, but does not cause anything at all analogous."

M. Zink found, in a case fatal from iodine, which came under his notice, enlarged abdomen from distension of the intestines with gases, enlargement of the other viscera, and serous effusion into the peritoneum; also enlargement and pale red rose colour of the liver.—*Jour. Complementaire*, xviii, p. 126, quoted in *Christison on Poisons*, 1829, p. 138.

In a fatal case from iodine, described in 'Rust's Journal,' the leading symptoms, mere pain in the region of the liver, loss of appetite, emaciation, quartan fever, diarhœa, excessive weakness, and after the emaciation was far advanced, *a hardened liver could be felt.*—'*Magazin fur die gesammte Heilkunde*, xvi. p. 3.

"Iodine, indeed, has been supposed to possess some specific power of influencing the liver, not only from its efficacy in alleviating or curing certain diseases of this organ, but also from the effects of an over dose. In one case, pain and induration of the liver was brought on; and in another, which terminated fatally, this organ was found to be enlarged."—'*Pereira*,' 2nd edition, vol. 1, p. 244.

"Aconite, when given in allopathic doses, reduces the pulse and counteracts inflammation, but fails entirely to cause plethora or inflammation in healthy individuals."

The facts which I shall adduce with respect to the physiological action of this drug I shall extract from a Materia Medica now in course of publication, entitled 'The Hahnemann Materia Medica;'* part i, of the work in question, contains a very copious schema of this medicine, arranged by Dr. Dudgeon, of London. The sources whence he has drawn the facts embraced within the schema, are various; 1st, from the connected provings of Hahnemann; 2dly, from later provings by some of his disciples; 3dly, from allopathic authorities, English, French, and German; and, 4thly, from a large number of well-authenticated cases of poisoning, both in man and the lower animals. For every fact stated, reference is given to every authority whence derived, so that it is within the power of any one who may choose to take the trouble to verify what I state, or disprove, if found the reverse. This proving of aconite is by far the best, the most copious, and most perfect yet given to the world, and every medical man not having it would act wisely in procuring the same.

Symptoms Induced.

Moral Symptoms.—Variable humour; moroseness; considerable anxiety and peevishness; extreme fearfulness and apprehension; the least noise is unbearable; great restlessness; raves, though awake; great unsteadiness in ideas.

Head.—Vertigo in every position; frequent attacks of vertigo, with dizziness and stupefaction, and severe head-ache; nausea; confusion as though intoxicated; heat in the head; head-ache excessive; excessive frontal head-ache of a dull pulsating character; countenance livid; rattling in the trachea; vertigo, with burning in the eyes.

Eyes.—Staring eyes; dimness of vision; pain in the interior of the eye severe; burning in the eyes; pressure, and burning over the brow; conjunctiva highly injected, &c. &c.

Face.—Puffy swelling of the face; face red and hot; cold feeling of the face, though hot to the touch; sweat upon the face; excessive cough, with sweating upon the supra-orbital ridge.

Mouth.—Dryness of the mouth; interior of ditto burning, painful, and inflamed; burning vesicles on the tongue; great thirst.

* London: H. Bailliere, 219, Regent Street.

STOMACH.—Vomiting excessive, with head bathed in cold sweat, and violent headache, &c. &c.

ABDOMEN.—Pressure in the hepatic region; violent jerks in the same region; burning sensation in the umbilical region, with rigour over the whole body; burning in the abdomen; colicky pains; pains in the bowels; intolerable pains in the same, with cries; sensitiveness from touch as if the peritoneum was inflamed, &c. &c.

URINARY ORGANS.—Burning at the neck of the bladder; tenesmus of ditto; frequent urinations, &c. &c.

LARYNX AND TRACHEA.—Raw feeling in the throat, with cough; short cough; irritation in the larynx, with cough and discharge of mucus; hoarse, dry, loud cough; hæmoptysis, &c. &c.

CHEST, &c.—Oppressed breathing; loud noisy breathing; difficult respirations; pains in the chest; pressure and weight in ditto; stitches in ditto severe; dull pain behind the sternum; violent stitches in the chest; dyspnœa, with congestion of the head, followed by rigor, sleeplessness, and easily tired; violent palpitation of the heart, &c. &c. (The symptoms detailed in connection with the chest in the original schema are exceedingly valuable to the medical man).

HEART CIRCULATION, &c.—Anxiety; pulse increased, with increased heat; pulse slow and intermitting; pulse exceeding 100 beats per minute; ditto, small and weak, &c.

BACK.—Pains in the back; severe pains in ditto, resembling rheumatism; violent shooting digging pains; pains in the loins, like labour pains, &c. &c.

EXTREMITIES.—Pains in the limbs of a very severe character; coldness and insensibility of the arms; cramp-like pains; cold sweats within the hands; paralysis in the arms and inferior limbs, fingers, &c. &c.

SKIN.—Yellow skin, resembling jaundice; red pimples, filled with acrid fluid all over the body; painful red pimples on fingers, &c. &c.

GENERAL SYMPTOMS.—Most of the symptoms are attended with shivering, shuddering, and anxiety; numbness over the body; burning heat of the skin; weariness of the limbs and great debility; copious sweat, followed by convulsions, &c. &c.

FEBRILE SYMPTONS.—Cold and shivery for several hours; rigor over the backs and arms; cold over the whole body; fever; coldness of the whole body, with hot forehead; one cheek hot, the other cold; perspiration hot; cold sweat, &c. &c.

Post-mortem appearances, as observed in Man, &c.—"The vessels of the brain and arachnoid injected with serous effusion under the meninges at the base of the brain. The cerebral vessels distended with blood." "Stomach distended; its mucous membrane had irregular patches of red upon it." In another case, "the stomach was beset with gangrenous spots." In another, "traces of considerable congestion." In a dog, "the whole of the inner surface of the stomach inflamed."

Abdomen, Man. "Œsophagus, stomach, and intestines, very red and inflamed. The blood-vessels, especially the veins of the intestines, very much distended: the inflammation stopped at the cæcum, the mesentery was very much inflamed, there was much serum in the peritoneal cavity.

Intestinal Canal, in a dog, "inflamed; abdominal veins distended with blood." Other animals much the same.

Kidneys, in Man, "congested;" "bladder empty."

Chest, in Man. "The lungs, especially their lower lobes, congested with black blood." In another individual, "the pulmonary parenchyma congested with blood, and scarcely crepitating." "The lungs heavy, blueish, violet posteriorly, little crepitating, and filled with blood," in a third.

Horse. "These organs, more especially the right one, were extensively studded with patches of extravasated blood about the size of walnuts, which in those parts connected with the pulmonary tissue were *more or less softened*, and emitted an odour characteristic of heated decomposed blood. *The rusty fluid produced from the softening had in various places passed into the bronchi*, imparting to their frothy mucus a *brown colour*."—*Veterinary Medicines, their Actions and Uses, by Finlay Dun*, p. 83.

Heart-Blood, &c. In man: "heart collapsed, with very little black fluid blood; larger vessels almost empty." In a second, "unusual fluidity of the blood." In a dog: "heart collapsed, containing thick clotted blood."

Such are a few of the symptoms and post-mortem appearances induced by Aconite. That these symptoms resemble, in the generality of instances, symptoms such as we find to accompany acute fever, either idiopathic or inflammatory, no one I think at all conversant with disease can for a single moment dispute; neither, I think, will any candid man dispute that it is an agent capable of producing an inflammatory action within the mucous and serous structures of the body. The post-mortem appearances I have detailed are clearly confirmatory of this, and I may add, that the facts unwit-

tingly furnished by my opponent himself, upon this head render the matter conclusive.

From the great length to which this communication has necessarily run, I am precluded at present from entering upon the other branches of this subject; viz., upon the question of Dose and that of Dietetics. I am unwilling to leave these matters, but want of space must be my excuse; however, I trust my opponent will see that the law "SIMILIA SIMILIBUS CURANTUR" is not altogether that piece of nonentity which perhaps he thought it was; indeed, I am thoroughly convinced that if he understood this question (and he most certainly does not understand it), he would never for a single moment oppose it. I have no objection to fully and fairly discuss this question with him in a spirit which is amicable to both—but he must keep to the question, leave alone the Lamas of Tartary—Mormonism—Phrenology—Major's British remedy, and Hudibras; they are all foreign to the dispute. Neither is it of any use my opponent abusing my book, at least not for the present; *but keep to the question*, and prove, by facts against which there can be no appeal, that *Similia Similibus Curantur* is not a law to guide us in the treatment of disease, but a figment and a delusion. The question of dose we can settle hereafter: I am fully prepared to meet my opponent upon that point; but as the truth or falsehood of the law does not in the least depend upon the dose question, neither in fact is it affected by it; let us, therefore, deal with one thing at a time. *Similia Similibus Curantur* is a question which at this moment is engaging a portion, at least, of the highest intellect not only in Europe but in America also. If Mr. Dun, therefore, has got anything really to say upon it, I promise him every attention on my part, but unless he has got something to say, and he certainly has not said anything yet, I would seriously advise him to employ his pen and his time upon something else which he undoubtedly does understand. Men argue against the law of similars, as though there was something unphilosophical in the very idea of its existence. We have laws for navigation, chemical laws, astronomical laws, anatomical laws, and laws of optical science. No one ever argues to disprove these laws, and yet, I say, men argue against a law for curing disease, as though it involved a something in opposition to reason and common sense. *Truth is but an effect.* For every truth there is a Law. I do not claim a practical perfection for Homœopathy, no such thing! Medicine, as practised now, particularly veterinary medicine, is the most crude and unsatisfactory thing possible, and he who knows the most about it will, I think,

say the least in its favour, so that scanty as Homœopathy may be, it is a very poor affair indeed, if it will not stand comparison with the other.

CALCULUS WITHIN THE URETHRA.

By F. Blakeway, M.R.V.C.S., Stourbridge.

Dear Sir,—Feeling interested in the following case, perhaps because it was the first of the kind I ever met with, I have sent it for your perusal.

My patient was a carriage-horse, 18 years old, the property of Charles Roberts, Esq., of the Field House, near this town, which the coachman called me to attend, at 3 p.m. on the 21st of April last, stating that he could not stale, notwithstanding he had bled him, and given a diuretic ball and turpentine draught. On my arrival, I found he had been in that state since the day previous.

Symptoms, then present, were as follows:—Pulse all but lost at the maxillary; extremities cold; anxious countenance; body bedewed with clammy sweat; penis drawn, and considerable stiffness in motion; respiration but slightly excited. Upon examination, *per rectum*, found the bladder highly distended, but pressure failed to evacuate any of its contents, and upon closer examination I found in the urethra, near the neck of the bladder, a substance which immediately struck me to be calculous matter. My first endeavour was, by manipulation, to force it back into the bladder; I then passed a catheter, hoping with that assistance to accomplish it, but all to no purpose; so informed my employer that the horse would be dead before morning, and most probably with ruptured bladder, unless he were operated upon, and which operation I represented to him in its proper light. It being a favourite horse, Mr. R— wished everything tried, but stated he should feel perfectly satisfied let the case turn out as it might. So I returned home, at once, for my instruments, and, it being a distance of five miles, I did not again see my patient till 9, p.m., when he appeared so much worse that I determined to operate immediately, without casting. Having well twitched him, and passed the catheter, I cut down upon the calculus, as near the fundament as possible, After a little difficulty, with a long pair of forceps, I extracted the calculus whole, but, to my astonishment (for I expected

to be flooded), no urine escaped, and it seemed as though the bladder, from long distension, was quite unable to act upon its contents; so the catheter was again passed, when the enormous quantity of two gallons of urine escaped! then, having well examined the bladder, *per rectum*, thinking it might contain another calculus, I ordered the catheter to be left in for the night, brought the wound together by single suture, had my patient's ears pulled, and legs well rubbed and bandaged; left him for a short time, to see the effects of the operation, when I found pulse returned, but irritable, countenance more lively, and inclination for food.

Gave aloës ʒvj, c. opii ʒss; ordered gruel and warm mash; and to be locked up for the night.

22nd, 1 p.m.—Urine escaping through tube, which continues in; bowels had not acted; pulse irritable; disinclination for food; extremities still cold; slight serous discharge from wound.

Gave *enemata*, to be repeated every two hours until bowels acted; ordered legs, &c. to be well rubbed, and to have plenty of thin gruel, which he drank eagerly.

23d.—Medicine acting, and my patient appears better,—but the catheter had come out during the night, and, although greatest part of the urine escaped through the wound, granulations were springing up, so I determined to interfere as little as possible.

25th.—Suppuration being now well established, I took out the suture, and applied a little Ol. olivæ, to sheath the granulations from the acridity of the urine, which still passed in greatest quantity through the wound: that, with the occasional application of the Tr. Myrrhæ Co. constituted the whole of my after-treatment; and, although the urine escaped in small quantities, up to the 15th of May, my patient is now perfectly well, and has returned to his regular work. I may add, the calculus weighed ʒvj, apothecaries' weight; in shape was long; $2\frac{3}{4}$ inches in circumference; in centre, $2\frac{1}{2}$ inches; each end was rounded: I had slightly broken one with the catheter and forceps; it is rough in its nature, and seems composed of carbonate of lime and mucus.

I am, Sir, yours truly.

MEMORABILIA.

By Mr. Horsburgh, Veterinary Surgeon.

Sir,—Solomon says, "there is nothing new under the sun," and Solomon being said to have been a wise man, we must believe Solomon. Some of us have doubts that locomotive engines on railroads, going at fifty miles an hour, steam ships circumnavigating the globe, or Minié rifles sending a piece of lead through an enemy's head at five hundred yards distant, were ever in existence before our time. Yet John Silk Buckingham tells me, he saw, in the Temple of Baleck, two stones, each seventy feet long, sixteen feet broad, and twelve feet thick, hewn, polished, and carved; yet they are in as good preservation as when they were made; also one cut from the quarry, distant from the temple about three miles, which is two feet longer in its rough state. We doubt at present, with all our mechanical improvements, if we could cut out of a quarry, carry three miles, hew, carve, polish, and set up such blocks; but yet, we may see the day perhaps, when extraordinary things like this will be done.

Some hundred or two of years ago, our farriers had about a dozen nails put into a round piece of wood, for the purpose of hammering them into the hock-joint of the poor unfortunate horse, which misfortune, or its own unnecessary exertions, affected with spavin. When I attended the classes, about twenty years ago, this instrument was shown, by our professor, to his class, with the greatest derision. Now, this old instrument appears in a new form, for the same purpose, being made of steel instead of wood and iron, and sold by our surgical instrument makers, who expect every noddy who happens to get a diploma, to purchase one, when furnishing out his *kit* for practice. A few years ago an insurance company for cattle was established in London, one of the terms imposed on insurers of young stock was, that calves, from six weeks old to—I forget how many years, were to wear a hair seaton, ornamentally dangling from their dewlap, to prevent them taking blackleg; such artificial drain on the system being to prevent them getting too fat, which, it would appear, might bring among them that fatal disease. None of our farmers would try such nonsense, they had a better plan of keeping them lean, if *that* would do any good: they could stop the supplies, so they thought there was no use

in applying an extra quantity of manure to one end of a field, and run it off at the other. I send you a piece, the veterinary part, of the journal called 'The North British Agriculturist,' where some Mr. D. D., having wrote to the editor that he had a calf with a swelled leg, he thought was blackleg, thanks him for his editorial advice, to put a seaton into the dewlap of all his calves, to keep down their condition, and prevent this dreaded disease. I am looking, every number that comes in my way, expecting to see the cow's tail recommended to be ripped up and bandaged with the old ointment, composed of soot, salt, and tar, as a cure for "tail ill." Spirits of tar was recommended to cure mange in horses; I think Mr. Ainslie, of Pentland's, case, is already in the *Veterinarian*, in which he nearly killed one, and foundered another riding for a veterinary surgeon to Roslin, to prevent the first going mad. Spirits of tar was at that time a cure for all diseases; that journal recommended it for killing scale bugs, &c., on fruit trees. It was extensively used about this neighbourhood; it killed the bugs, no doubt, but it killed the trees also.

If you don't read the 'North British Agriculturist,' I think you ought to take it: you would get matter for the *Veterinarian* from it. In a recent number, inflammation of the mucous membrane, and inflammation of the peritoneal coats of the intestines are both described as, and called the same disease, and the treatment is the same for both; no bleeding, bleeding kills, but give aconite.

Aconite seems now to be a cure for all diseases; it is recommended in enteritis, nephritis, bronchitis, and, I suppose, all the other *itises* that exist. Very likely some of our farmers will pay more dearly for this aconitish mania than Mr. Ainslie paid for his spirits of tar one. You will see in this paper, Mr. Lotham, veterinary surgeon's cases of inflammation, and the answer by the editor. No doubt bleeding was at one time common in all cases, but that was the result of ignorance, something had to be done for good or for evil; but now every veterinary surgeon knows, or rather ought to know, when a horse may be bled with benefit, and when he ought not to be bled; and aconite is no more a cure for diseases in the horse than Parr's life pill, Morison's pills, or Dr. Solomon's balm of Gilead, in the human subject.

DALKEITH, *June* 12, 1854.

OBSERVATIONS ON BREEDING.

By Omega.*

Sir,—Not having the honour to belong to the veterinary profession, I do not regularly read your very able periodical, though my attention has lately been called by a friend to an article in the number for May last, on the subject of "Animal Physiology, and Breeding Farm Stock," in which the writer most strongly reprobates the practice of in-and-in breeding. It so happens that I am well-acquainted with Mr. Barford, of Northamptonshire, who is mentioned by name therein, and and having had some opportunities of seeing his management of his sheep, and his practice with regard to in-and-in breeding, I take the liberty of troubling you with a few lines in reply to Mr. Lance's paper.

That gentleman has adduced several instances, or rather related several anecdotes "as the data on which he founds the argument, that consanguinity in blood amongst parents leads to degeneracy in the offspring." But, to me they by no means satisfactorily prove his position. His long quotation from Mr. Lawrence's lectures about the Angola sheep, makes rather for than against the practice of in-and-in breeding, as it clearly recognises the possibility of retaining varieties of animals by "*preserving the race pure,*" by selecting for propagation the animals most conspicuous for size, or any other property we may fix on. In this way we may gain sheep valuable for the fleece or the carcass, large or small, with thick or thin legs; just such, in short, as we choose." The other instances he mentions, as of Hallers, "two noble females," of Mr. Marsh's, of Ryton, having produced an "appalling malformation" in the produce of a son with his mother; and others only prove, what I presume Mr. Lance will at once admit, namely, the truth of the old adage, that "like begets like," and that where any imperfections, moral or physical, exist in the parent, they will most likely re-appear in the offspring, whether bred in-and-in or not. As a set-off to one of Mr. Lance's instances, I may mention that Bakewell found that good qualities were also transmissible, and in as great a degree as evil ones. And it is rather singular that he founded the observation in the results of an experiment (amongst others) exactly similar to that of Mr. Marsh, having found that a sow of his never bred so good pigs as when put

* "Omega," has confided his name to us.—Ed. '*Vet.*'

to her own son. And allow me to ask Mr. Lance, whether "the deformities of mind and body," which, according to Mr. Lawrence, spring up so plentifully in our large cities, cannot be amply accounted for by the intemperate habits, the vicious-indulgencies, the vitiated atmosphere, the unhealthy occupations, the undrained and unventilated habitations in which so many of our urban population live and have their being, without having recourse to "the want of selections and exclusions" to which he has alluded. For it must be borne in mind that, in the agricultural districts, the same "want of selections and exclusions" exists as in the cities, without, as Mr. Lance must admit, anything like the amount of mental and bodily deformity, which "degrades the race" in the towns. And, supposing, for the sake of argument, that the state of many of the royal houses in Europe be such as Mr. Lawrence implies, may it not be possible, that, many generations of luxurious indulgence and unrestrained passions, which, perhaps, are inseparable from their exalted position, may not, by their continued, though gradual effect on the constitution, sufficiently account for it, without attributing it wholly to the fact of their being restricted to some ten or twenty families in their choice of husbands or wives. But to return to sheep-breeding.

I gather, from what Mr. Lance implies rather than from what he says, that he imagines Mr. Barford allows the most promiscuous and indiscriminate intercourse amongst his flock. There cannot be a greater mistake. The most continual vigilance is exercised to prevent the propagation of any defect, should any appear, and to use Mr. Lance's own words, "it is only the best that are allowed to continue the race." In this I presume Mr. Barford only follows the example of every other breeder, and not to do so, would at once stamp a man with the most ridiculous imbecility. If the cousins, of whom Mr. Lance has spoken, of the white breed of fowls in Hampshire, if Mr. Marsh's hogs, if the "silly" sheep in Wiltshire, in fact, if the subjects of any of the in-breeding experiments he mentions, had any "deficiency of nervous energy," any "weakness of nerve or malformation;" in short, any defect whatever, it is evident to the narrowest mind, that the nearer the affinities, and the longer they are bred so, the more decided will those defects become. But it must be absurd to attribute them to the bare fact of in-and-in breeding. Mr. Lance must prove that ALL cross-bred animals are free from ALL defects before he can say that. In fact, I should regard failure in in-and-in breeding experiments as the most irrefragible evidence of

defect in the parent or parents, and nothing more. I often think that it must be to misapprehension on this point that much of the unmitigated hostility to in-and-in breeding is to be attributed. People, by some means or other, get hold of the idea that the advocates of the system mean universal and indiscriminate in-and-in breeding, than which nothing can be more absurd.

But, let us see where Mr. Lance's favourite system will lead him when carried into practice. As the end and aim of all crossing is of course improvement, all breeders may hope to (nay IF the theory be correct, they *must*, at some period or other) reach a point, beyond which there is no improvement to be made, BY CROSSING, that is, they will produce a perfect animal, or at least, one more perfect than anybody's else. Now, sir, allow me to propound this question to Mr. Lance—When a man has arrived at this point—when he has exhausted every source of improvement which the kingdom, nay, which the world affords—what is he to do? It is evident he must adopt one or other of the following courses:—Either he must feed off and consign to the butcher both his males and females, without any more ado; or he may allow them to live through an unprofitable maturity, and a useless old age, and die at last a natural death; or, he may call in Mr. Stafford, and disperse to the four quarters of the globe the fruits of perhaps a life-time of care, trouble, and anxiety, besides enormous expense, and begin again *de novo;* or, he may knowingly, and with his eyes open, by crossing them with animals inferior to themselves, retrograde, step by step, to the mediocrity and inferiority with which he set out in the first instance; or, his last resource, he may, by in-and-in breeding, attempt to propagate them perfected as they are, and thus retain for his country and himself, the benefits which such a race of animals must necessarily confer. But such is the amount of obstinate prejudice now entertained against this system that we might expect to see many gentlemen, perhaps Mr. Lance himself, adopt any of the above courses rather than the last. This is a supposititious case, but substantially it may be said to have occurred in the instance of Mr. Barford's flock, as the following rough sketch of its history will show. About the year 1786 the late Mr. V. Barford commenced sheep-breeding. He hired rams of Mr. Robinson, of Wellingborough, who was a disciple of Bakewell, of Dishley, and bred from his stock. Mr. Barford continued to do so until about the year 1810, when the present Mr. Barford, considering his own sheep as good as Mr. Robinson's, and not being able to find any that he

thought calculated to improve them, was really placed in something like the dilemma which I have above mentioned. However, in-and-in breeding had no imaginary terrors for him, and therefore he boldly adopted the last of the courses which I have enumerated; so that, by necessity, even if he had not from choice, he must have become an in-and-in breeder. I will not take upon myself to say that he has succeeded, but I do ask any gentleman who is sceptical of the possibility of the thing, to visit him, and inspect a flock of which every individual sheep has a pedigree that can be traced back for upwards of forty years without a cross!

With such a fact as this before me, Mr. Editor, and with the still more significant one that the Jews have bred from the closest affinities from the very time of their father Abraham, without any deficiency of nervous energy, or any physical or moral degeneracy, I think I may be justified in declaring my firm opinion, that the explanation of the numerous and palpable defects in man and animals, in modern times, must be sought in other reasons than the system of breeding Mr. Lance so strongly objects to.

I am, Sir,

Your obedient servant.

June 13, 1854.

REMARKS ON THE USE OF ACONITE.

By Robert Dod, M.R.C.V.S.E.

Sir,—In re-rambling over your last April number of the *Veterinarian*, I observe an inaccuracy; viz. that Mr. Dun, in his introduction of 'Veterinarian Materia Medica,' at p. 224, mentions a "Mr. Balfour, V.S., Kirkcaldy, who has employed aconite upwards of three years, and with success." Allow me to state, that there is not a person of that name practising here as a veterinary surgeon; but there is a Mr. A. Balfour, V.S., residing in Hole Mill, at a distance of between two and three miles from this place, and your humble servant has been in practice here since the year 1826. Your journal having an extensive circulation, may cause some of my friends to believe that I have either left the place or died; and as there is a distinction of men's names, professions, and residences, such as Walker and Wood, of Caithness and Kelso, I have no desire for a leaning from either north or south side of the Tweed. Having tried the

effects of aconite in disease of the chest upon two cows, on the first of March last, I am sorry to state was unsuccessful in both cases, probably owing to my being unpractised in the use of it. I will therefore solicit any member of our profession to give it a trial, as a cure for the diseases it is adapted to, and give a candid report of its effects, observing that I myself have failed in its use.

I am Sir,

Your most obedient servant.

KIRKALDY; *June* 14, 1854.

HORSES POISONED BY YEW.

By GEO. WATERS, M.R.C.V.S., Cambridge.

SIR,—The following cases of poisoning by yew *(taxus baccata)*, may not be perhaps altogether without interest to the readers of your valuable journal.

On Sunday, the 9th of April, 1854, a favourite bay saddle horse, the property of the learned Dr. W——, Trinity College, Cambridge, was turned out, for the first time, into the paddock, behind the college; after having been treated for a lameness in the near fore foot, for about six weeks, with success. He was perfectly well, and feeding at the time the groom left him, and on his returning to fetch him up, in about four or five hours afterwards, the poor creature was discovered lying dead in the pasture, but quite warm as if he had just died.

I was applied to for the purpose of ascertaining, if possible, the cause of the horse's sudden death. On making a *post-mortem* examination, I found a considerable quantity of yew leaves and twigs, mixed with grass, in his stomach, which were agglutinated together with its mucous secretion, the whole forming a coarse, dry, indigestible-looking mass. The mucous membrane was considerably inflamed in patches; the red colour showing a great contrast with other parts of the membrane that were not so much in contact with the yew leaves. With the exception of some slight congestion of the vessels of the cerebrum, every other part of the body seemed perfectly healthy.

Some time previous to this occurrence I had an opportunity of examining a highly-prized cob, for one of the Fellows of King's College, in this University, that died under similar circumstances. There was nothing seen

amiss with him when left by Pettit, the groom, in the quarters of the College, on the Saturday night; but he was found on his side, quite dead and cold, at six o'clock on the following morning. This horse's stomach was found to be literally crammed with yew twigs and grass, and there was also a slight rupture in its greater curvature. With the exception of this, the *post-mortem* appearances were precisely similar to the foregoing case. He had broken down part of the iron railings that separate the quarters from the shrubbery adjoining Clare Hall, and feasted upon the branches of one of the nearest trees within his reach, which, unfortunately, happened to be a yew tree. In the case of the reverend doctor's horse, the gardener, in his ignorance, had removed a quantity of small branches and clippings from a yew hedge, with other rubbish, into a paddock, at the very spot where the horse was found dead.

Some years ago I happened to see four or five valuable cows lying dead in a paddock adjoining the park of—Godfrey, Esq., East Bergholt, Suffolk; and, although I was a very small boy at the time, I remember it was said that they were all poisoned from eating branches of the yew tree.

I remain yours, &c.

CAMBRIDGE; *June* 15, 1854.

REMARKS ON MR. MAYHEW'S LETTER IN REPLY TO MESSRS. DUN, &c.

To the Editor of the 'Veterinarian.'

SIR,—Unwilling as I am to fill your pages with a controversy, devoid, perhaps, of general interest, I have yet to crave the insertion, in the July *Veterinarian*, of the following remarks on a letter by Mr. Mayhew, published in your last number. In this letter Mr. Mayhew states that, in a paper in your May number, I have quite misrepresented the views he advocated regarding the physiology of the heart, in an article in the April *Veterinarian*. Now, upon a careful re-perusal of both his paper and my own, I am unable to discover a single misinterpretation on my part of Mr. Mayhew's views; and shall be glad if that gentleman will state in what particulars I have erred; otherwise his charge of misrepresentation must be regarded merely as a gratuitous assertion.

Moreover, Mr. Mayhew appears to think himself aggrieved by my attempting to controvert his views. He must surely be aware, however, that all published opinions are amenable to criticism and discussion, and that such criticism and discussion are worthy of encouragement as tending to the elucidation of truth.

Lastly, Mr. Mayhew hints, that the articles by Mr. Smith and myself are both written by *one* person. This insinuation I need only meet with an unqualified denial.

With many apologies for thus trespassing upon your valuable space,

I am, Sir,

Your most obedient servant,

ROBERT DUN.

EDINBURGH VETERINARY COLLEGE;
June 14th, 1854.

BILL OF EXEMPTIONS.

To the Editor of the 'Veterinarian.'

Sir,—Seeing in this month's *Veterinarian* that the Bill of Exemptions is not likely to be obtained, I thought an account of the way in which I obtained my exemption from parochial offices and serving on juries, might suggest, to some of the profession, the propriety of trying similar applications.

About fourteen years ago, before policemen were fashionable in this neighbourhood, I was appointed constable, and had to appear before a bench of magistrates, to be sworn in: when I appealed against my appointment.

Addressing myself to one of the magistrates (who, I had heard, had been a cavalry officer, and thinking him more likely to know something about the diseases of horses than some of the others), I said, Sir! suppose you had a valuable horse attacked with an inflammation of the bowels, which is a disease that, if neglected or improperly treated, generally very soon proves fatal; and supposing myself the *only* veterinary surgeon within a reasonable distance, and you wished me to attend your horse, I, being constable, from having a prisoner in custody, and not being able to leave him until safely deposited in prison, which is nine miles from me: now, before I get back, perhaps your horse may be dead!

He immediately told the other magistrates, he thought me a very *improper* person to be appointed constable, and also that my

name should be omitted in the list of persons liable to serve on juries, to which they assented.

I enclose my card, and am,

Sir,

Yours respectfully,

VET.

June 16, 1854.

P.S. I should not like my name* published, as some one, not succeeding in his application, might mention it, and the bench, to appear impartial, might request the magistrates in my district to put me on the list again.

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

THE TEETH OF THE OX, AS INDICATIVE OF AGE. An Explanation of the Signs afforded by the Incisor Teeth during Temporary and Permanent Dentition. By GEO. BROWN, Professor of Veterinary Surgery in the Royal Agricultural College. London; Adams, and Co. 1854. Pamphlet, 8vo, pp. 29, with cuts.

THIS is a small unpretending work, composed for the use of the farming public, it having, as the author himself says, in his "Preface," "no pretensions to the scientific," and as such it seems to have been a *desideratum* with the agricultural world, though, after all, *popular* works, *i. e.*, "useful knowledge" ones, are all doomed to but a short run in the book world, in the course of time to be superseded by works of science and sure foundation in their several departments. The age is fast improving: men, though they do not quite comprehend them, will still buy the most scientific works in preference to superficial ones; even farmers prefer having 'Liebig's Chemistry, and 'Brande's Dictionary,' to the trashy compositions, such as 'Every Man his own Grazier and Cattle Doctor,' &c. &c.

* The writer has sent us his name.—ED. '*Vet.*'

We presume Mr. Brown's observations are such as have been gleaned at the Cirencester Agricultural College, which, from its circumscribed limits, must have forbidden him to write with that degree of confidence which a wider sphere of observation would have inspired; to this we may refer such passages as we find in his "Preface," viz., "that the *rules* given in those pages will be found *exceptionable, in certain breeds and under certain conditions, cannot be even a matter of doubt*, &c. &c." Now, for our part, we do not believe, under a proper inquiry, *i. e.*, a wide and extensive research into the subject, that there will remain any "doubt" whatever on dentition, &c., save and except such as we meet with among horses: on the contrary, we believe that, allowances being made for season of birth, mode of rearing, kind of keep, &c., all animals will, by their teeth, show *unexceptionably* their period of age, true, at least, to the year of their existence, and that we run no more risk of being deceived or mistaken through the mouths of oxen, sheep, pigs, &c., than we do with horses. If there be admitted to be any variation whatever in regard to this, "the present improved breeds of cattle" may be adduced as showing more or less forwardness in their coming to maturity, over the old or former breeds; but this is the effect of better care, and tendance, and keep, and not to be advanced as any *change* in their inherent nature; Nature is ever true to her purpose, at least, is so far to be implicitly relied upon, that she on no occasion shows an animal of one year of birth to belong to another and different year, by any deception or false indication of mouth; there may be, and is, more or less latitude in the backwardness or forwardness of mouth, in the cutting and development of teeth, but the *year* remains unchanged; it is a standard sign not to be depraved or counterfeited by any tricks of art. These remarks are confirmed by an extract from Girard, taken from the *Veterinarian*, which runs as follows:—

"'But these rules, the result of long and accurate observation, and correct and well founded at the time, when, and in the countries where they were made, are no longer applicable and true in regard to certain individuals and certain breeds.' In explanation of this the writer continues: 'Indeed, thanks to the progress of agriculture, to a better system of

management and feeding of cattle, and to judicious and advantageous crossings, it is certain that, for some years past, many of our bovine races have experienced in their form, and especially in the precocity of development, remarkable ameliorations.'

"'Whatever may be the causes of this remarkable aptitude in certain breeds to acquire their growth early, it is readily conceivable, that such precocious development cannot be confined to any particular organs. If every part has not equally participated in it, at least they are all affected more or less by it. Above all, the digestive system—that part called on to play an important part in the preparation of such aptitude, since all must essentially result from the nature and action of alimentation—the digestive system, I say, must be one of the first to undergo important modification: it ought to be the first to acquire the maximum of activity and power, in order that it might act with increased energy and effect on the solid and substantial aliments on which animals feed, not only in greater abundance, but at an age at which nature never intended them to be so highly fed.

"'Physiologically, therefore, it may be argued, we must admit, that both the use of the teeth and dentition ought to be earlier in subjects weaned at so early an age and so soon fed with substantial food in abundance, since the quicker wear of the organs is a necessary consequence; hence their earlier replacement by teeth stronger and more resisting, is a natural condition of such alimentation.'

"These observations, in short, leave nothing to be said further on the influence of breeding and feeding on the development of the tissues, beyond the remark, that what science permitted to be assumed, practice has since amply verified."

On the insubstantiality and piracy of works, now growing old, on the subject of "teeth," Mr. Brown in truth remarks,

"But unfortunately their assertions are not confirmed by investigation; and the entire absence of discrepancy has seemingly had the effect of producing a perfect confidence, though an erroneous one, while its presence would probably have excited attention and elicited the truth. For illustration of my meaning, let any one turn to the article on Teeth, in the 'Work on Cattle,' published by the Society for the Diffusion of Useful Knowledge, and say if the remarks bear a natural stamp: let the farmer examine the woodcuts representing the mouth at birth, at eight, eleven, and fifteen months; let him compare them with his own stock, and judge whether the artist drew from nature or his own imagination. Even the unpractical reader could not fail to be struck with the very fanciful description of the mysterious wasting of the temporary teeth, in pairs, commencing in front, and gradually extending; not by the common process of wear, affecting the whole set, equally, but, as asserted, by some specially absorbing power, which would seem to take up its position without any object, and to produce effects at once unnecessary and unnatural."

The "description of the teeth" is followed by "temporary dentition," the latter part of the subject being illustrated by woodcuts, showing "the mouth at birth," "calf six weeks old," "heifer ten months old," the mouth "at one year and seven months," ditto at "one year and ten months," ditto "at two years and seven months," ditto "at two years and nine

months and sixteen days," ditto "at three years and a half," ditto "at two years and ten months," ditto "at twelve years old." Such observations being "principally made upon short-horned cattle," a restriction which places the author under certain unavoidable disadvantages.

Still, with the few materials at his command, and with the restriction he had imposed upon himself at starting, viz., that of observing a "profound silence" on the anatomy and physiology of the teeth "rather than attempt a *popular* description of them," our author has acquitted himself very creditably. He has evinced a good amount of research into former authorities on the subject, in particular of the best (Girard in particular), and learnt what he could out of them; though he found the majority of them, as compared with "Nature's book," unworthy of reliance. And that, we may add, will be found by all writers in proportion as they deviate from Nature's straightforward path. As Bracey Clark says in his motto,

"Naturam expellas, usque dum non recurret;"

unless we are resolved to follow her as our guide, the sooner we lay down our pen the better.

It only remains for us to direct our reader's attention to the wrapper of the present number, whereupon they will find an advertisement, announcing 'An Essay on the Ages of the Ox, Sheep, and Pig,' by Professor Simonds.

Traité Elémentaire de Matière Médicale, ou de Pharmacologie Vétérinaire, suivi d'un Formulaire Pharmaceutique Raisonné Par L. Moiroud, Ex-Directeur de l'École Vétérinaire de Toulouse, &c. 2me Edition, revisé, corrigée, et augmenté par l'auteur. Toulouse, 1843, 8vo. pp. 640.

An Elementary Treatise on Materia Medica, or Veterinary Pharmocology, followed by a Pharmaceutical Formulary raisonné. By L. Moiroud, Ex-Professor of the Veterinary School of Toulouse. 8vo., pp. 640, Toulouse, 1843. Second Edition.

The 'Pharmacology' of Moiroud was for many years the class-book of the French Veterinary Schools, and deservedly gained the preference of those who found it necessary to consult a work of the kind, being at the time the chief pharmaceutical guide of veterinary practitioners. The first edition had been for some time out of print, when the heirs of M. Moiroud, at numerous urgent requests, were induced, in 1843, to launch the present edition through the press, with care to expunge from it such errata as had inadvertently crept into the first impression, and to substitute the decimal system—then the only one in use—for the ancient weights and measures, which latter has still been retained for fear of any want being felt of due comparison between the old and new weights and measures. The small number of pharmacological works in existence in times before Moiroud published, with the scanty information to be obtained of the physiological action of remedies and their principal indications, which even the 'Traité de Matière Médicale,' of Bourgelat, did not sufficiently make up for was a further plea. Moiroud consulted the work of the founder of the French Veterinary Schools (Bourgelat), he says, with care and with profit, though he appears to have derived most information from the 'Dictionnair de Médecine', in 21 volumes.

Veterinary Materia Medica comprises that essential part of animal medicine engaged in the investigation of medicaments, under such relations as determine their selection and direct their employment.

Passing at once to the

Classification of Medicaments,

—we are informed *in limine* that materia medica, the same as all sciences whose object is the study of a vast number of bodies or of different phenomena, renders it necessary for us to assemble together in particular classes all such objects as appear to have most analogy or affinity between them; though such methodical distribution, to be practically useful in the knowledge of medicaments, requires to be based upon such properties as science finds the most prominent. Still among the different properties of the subjects of pharmacology, there exists no doubt that such as relate to the action exerted on the animal economy are the most interesting either to the veterinarian or the surgeon; it being an error to hand such arrangement over for classification either to naturalists or to chemists, since neither the internal nor the external character of bodies, nor their chemical, can serve to forewarn us of, much less explain to us, their *modus operandi* on the animal economy.

Chained to physiology, therapeutics, and pathology, materia medica has ever partaken of their destinies, and with their incertitudes has ever been ranged under the different systems to which they have in succession been subservient.

In our days, most authors engaged in the science of medicine have sought to avoid the rock I have just been warning you of, but among them none have been found who have succeeded in so simplifying their system as to render it capable of presenting any of the advantages one would have desired from it. Since they admit but of *two* kinds of morbid phenomena, they acknowledge no more than two sorts of medicaments as adjutants—*excitants* on the one part, and *debilitants* on the other.

It is true, we cannot deny that the largest number of medicaments have for their immediate effect the action of exciting or debilitating the tissues with which they come in relation directly or indirectly, and this is what we have sought to express by the distinction we have pronounced relative to the negative influence of some, and the positive

influence of others. At the same time, we cannot gainsay that many among them possess, independently of this general influence, *particular* properties, by virtue of which they exert their actions specially on certain organs, and seem to run about, as a certain author has it, making choice of, by a sort of elective faculty, the organ best suited to them out of all entering into the composition of the animal machine. In this way it is, for example, that the preparations of iodine, although they operate in modifying the entire animal economy, produce, notwithstanding, not less essential effects in the system, and these principally on glandular bodies. Likewise, thus it is that tartar emetic, although possessed of the property of irritating every tissue placed in contact with it, not the less retains the power of exciting its essential action of vomiting, in whatever ways it may, besides, affect the body.

The vast number of analogous facts with which observation has enriched the science of medicine, teach us that in those medicaments possessing general or common properties reside special or particular ones.

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Medicaments, as was observed before, not being very numerous, will admit of being ranged under two grand divisions, of which the first will comprise the *debilitants*, and the second the *excitants*.

There are but few substances which do not enter in some respects into one or other of these grand divisions; though some we encounter, having a *mixed* action, or one *sui generis*, are removed to a distance equally from the class of excitants and that of debilitants, though these are exceptions from which the best systems of classification are not entirely exempt.

The particular properties, many times more numerous and varied than the general, will afford room likewise for a still greater number of divisions.

* * * * *

Substances having particular properties, the same as those possessing but general ones, appear but little susceptible of bringing about salutary changes, but by virtue of the faculty they possess of modifying the primitive condition of organs. Nevertheless, some among them seem to exert this power

principally on the morbific causes, and produce cessation of the disease by attacking especially these causes; such are *vermifuges*.

Some authors have attached a high importance to this last or special property, and have signalised, by the name of *specific*, all such medicaments appearing so endowed.

Specifics have been, and still are, at the present day, on occasions the subject of numerous controversies: admitted by some, rejected by others, without distinction, they have given rise to sharp discussions.

Without doubt, confining one's self rigorously to the word *specific*, and the signification it bears, one would not desire to apply it to substances having, to the exclusion of all other properties, the single one, of constantly removing this or that morbid condition; if we did, it is certain that, on such ground as this, there would not be a single specific in existence; but if, with less rigour, and with a wider view of matters, we regarded as specifics medicaments which, appearing to attack the causes of certain diseases, removed them more frequently and constantly than others, then we should be forced to admit that there did exist substances deserving such qualification, since it is most certain there be many which enjoy such kind of privilege.

In regard to what remains, since veterinary therapeutics are but of small account in the present state of science, among medicaments, worthy of receiving the title of specifics, those only that are employed to combat diseases occasioned by insects or parasitic worms, as well as such as we administer against meteorisations, we believe ourselves warranted in dispensing with entering into further details, in respect of them.

From such considerations it is that we have reduced our Table of Classification. We have been compelled to collect together the different groups composing it, according to the physiological effects proper to each of them, but without losing sight altogether of their therapeutic properties Thus it happens that *astringents* and *tonics*, which we might have felt disposed to arrange in the same class, if we had consulted their primitive action alone, have been separated;

since, not only are they not identical in this respect, but again, because they answer to different indications.

We ought likewise to observe, that it has been rather by an appeal to their primitive action, to the curative effect of the mercurials and the compounds of iodine, chlorine, antimony, and some other analogous medicaments, we have founded our sixth and seventh classes of *special excitants;* since, in considering the primitive influence of these agents, whose immediate effects, always obscure, often inappreciable, cannot be developed in an exclusive manner under the same circumstances.

To return, our constant aim, in the introduction of several elements of classification, has been to group medicinal substances among them, in such a manner as to be able to offer to the practioner series of agents, among which he might find instruments with which he would have it in his power to modify such and such an organ, or such and such a system of organs, without his losing sight of the secondary effects he had a right to hope for.

But a combination like this necessarily presents great difficulties, and we are far from flattering ourselves that we have succeeded in surmounting them. In fact, how are we to expect to range, in their precisely suitable places, those medical agents whose primitive action is still covered with a thick veil, and whose effects, altogether, according to the dose in which they are exhibited, the form in which they are administered, the state or condition of the subject at the time, and many other casual circumstances, are totally different.

For all this, with such difficulties flying in our face, must we renounce all attempt at methodic distribution, or substitute for it alphabetical disorder? Persuaded that a classification, based upon the characters of things, however imperfect it may prove, is still preferable to our resting upon words alone (when it does not run to the height of preventing the examination of every object with independence), we have not hesitated a moment in our choice, though well convinced beforehand that we are giving a great deal more room for criticism.

SYNOPTICAL TABLE OF THE CLASSIFICATION OF MEDICAMENTS.

Debilitating Medicines.

Emollients and Relaxants,

which tend to soften and relax the tissues of organs.

Temperants and Refrigerents,

which tend to moderate the course of the blood, the too great activity of organs, and the production of animal heat.

Exciting Medicines.

Excitants properly so called, Diffusible Stimulants,

which tend to accelerate the course of the blood, to give fresh activity to organs, and to increase the animal heat.

General Excitants.

Tonics, Strengtheners,

which tend to augment fibrillary contractility, to strengthen, as a consequence, the tissue of organs, without at the same time producing in them morbid phenomenon of astriction.

Astringent and Styptics,

which tend particularly to augment fibrillary contractility, and to constrict the organic tissue.

Purgatives and Laxatives,

which act more particularly on the digestive tube, tending to provoke peristaltic movement, and consequently alvine dejections.

Special Excitants.

Vomits, Emetics,

which act particularly on the stomach, tending to provoke its peristaltic action, and the discharge of its contained matters.

Diuretics.

which act particularly on the kidneys, tending to augment the secretion of urine.

Emmenagogues, improperly so called,

which act particularly on the uterus, tending to provoke its contractions, and, as a consequence, the expulsion of its contents.

Narcotics, Sedatives, Antispasmodics,

which appear to act particularly on the nervous system, tending to modify its action.

Mollifiers (Fondants),

which appear to act particularly on the capillary system in general, tending to promote interstitial absorption.

Sudorifics and Diaphoretics,

which appear to act particularly on the skin, tending to modify its functions.

Rubefacients, Epispastics, Caustics,

which are applied particularly upon the skin and subjacent parts, in order to produce rubefaction, vesication, and cauterisation.

Vermifuges, Anthelmentics,

which act particularly in the distruction of worms, and in favouring their expulsion.

If, instead of that, he were permitted to have, *pêle-mêle*, as it were, the whole lot of medical excitants set before him, he would find himself greatly embarrassed in the choice he ought to make, or else likely to run into grave mistakes, if he believed himself capable of taking, indifferently, one or other of them. On the other hand, if less exclusive, those who reject pharmacological classification altogether, but take care to point out in the particular history of every medical substance, its manner of acting with the influence exerted by it over this or that organ or organs, will find themselves compelled to acknowledge the recognition among such bodies of particular properties, and they cannot admit that each of these properties is, so to say, confined to a single substance, they will fall themselves into the system of specifics, which they, with a sort of disdain, at first rejected. And if several medicaments should prove alike in their particular properties, why not try at once to associate them in the same class ?

First Division.

Debilitating Medicines.

The name of *debilitants* is given to all such agents, and causes in general, as manifest a tendency to weaken the vital forces, and to moderate organic activity.

Medicines enjoying this property, which are ordinarily described under the denomination of *antiphlogistics*, have for their general effects the diminution of heat, sensibility, and motility of parts submitted to thier influence, also of regulating the progress of *cretinism* in the solids.

Thus it is that pain and irritation are calmed, the resolution of disease favoured, and its duration abridged.

Mallows, *les Mauves* (Malva.)

These plants will serve as a type of the natural family of mallows (class. *Monadelphia Polyandria*), of which almost all

the species we are able to use in medicine as emollients. The most common in Europe, and, consequently, the most frequently used, are the large and the small mallow.

The Large Mallow, or wild mallow (*malva sylvestris*) is ramous, a foot and a half in height, clothed with alternate leaves, with very long petals, soft and tender to the feel, &c. &c.

The Small Mallow, or mallow with round leaves *(malva rotundifolia)*, differs little from the preceding one, unless it be for the smaller dimensions of its several parts, which are all smaller.

Both species grow in abundance in uncultivated places in the vicinity of towns, by the road side, or in fields rather low situated.

The large quantity of mucilage mallows contain in their various parts, fits them very completely for emollient medication, so that they are daily used for that purpose. We make decoctions of them for the most part for external use, and for *lavement:* the pulpy residue serving for the preparation of poultices. In this last case we frequently mix linseed-meal with it, which increases the vicosity of the poultice, and keeps it from drying so soon as it otherwise would.

The flowers of the mallow, still more soothing than either the leaves or the roots, are administered internally in severe irritations of the organs of respiration. The dose is a handful to a pint and a half of water. The flowers, however, are on occasions scarce, and of a rather high price, and when this is the case, we substitute frequently other medicamentous substances for them of the same class, less dear and generally equally as efficacious, such as marsh mallow and other roots.

Second Division.

Exciting Medicaments.

In pharmacology we give the name of *excitants* to all such medicaments as possess the property of augmenting the intensity of the vital forces, of arousing the action of organs

to give to them fresh activity, and so render the exercise of their functions more rapid and energetic.

Among these medicaments, some have a mode of action which spreads over the entire organism, while others act more particularly on certain organs, or certain organic apparatus. We represent the first under the name of *general excitants*, and the last under that of *special excitants*.

Carbonate of ammonia (*concrete volatile alkali*—sal volatile of England).

A saline, solid, white substance, in larger or smaller layers, formed of a multitude of small crystals, disposed in feather-like concretions, having an alkaline, volatile, well-known odour, and of a piquant, urinous, caustic taste.

This salt is soluble in three times its quantity of cold water, and when put into boiling water quickly becomes volatilised; it changes and equally becomes volatilised when exposed freely to the air—hence the necessity of keeping it in well-stopped bottles. It turns to green the blue colour of the mallow and the violet. All acids in the liquid state decompose it with effervescence, and disengage carbonic acid; itself, it decomposes the metallic salts in solution in water, with the exception of those of soda and potash, and two or three others, having oxides for their base, of the first class.

Carbonate of ammonia exists nowhere pure in nature, but becomes frequently produced during spontaneous decomposition, or by the burning of organic matters containing azote.

To obtain the salt pure, we introduce into a receptacle of earthenware equal parts of hydrochlorate of ammonia and chalk, or carbonate of lime, and we put the vessel into a reverberating furnace, we adapt to it a prolonged neck, and to this we fix a recipient tube; and with clay unite the joints and permit them to dry; then we gradually heat them. Now a double decomposition ensues, the formation of water and chloride of calcium which remains within the vessel, and of

carbonate of ammonia which rises in the form of vapour, and becomes condensed within the recipient, whence we extract it, as soon as the operation is at an end, and preserve it by introducing it immediately into glass tubes, hermetically sealed.

At other times, we prepare a sort of oily carbonate of ammonia by the distillation of stag's horns over the naked fire, and collecting the liquid product of the operation. From this it has been called spirit of hartshorn, a name we give it in the pharmacy. Ammoniacal salt thus obtained always contains pyrogenic oil (animal oil of Tippel), which modifies its properties. It is a medicine generally in our days abandoned.

As to that here mentioned, its *modus operandi* is that o liquid ammonia, than which, however, it is less active. Spoken of as being mollifying and depurative, carbonate of ammonia has been employed under this title against glanders and farcy. It was imagined that by giving fresh organic activity, it might favour the resolution of certain organic enlargements, though nothing has shown that it possesses any special influence on the absorbent system. Lauded likewise in certain epizootic diseases characterised by great prostration of strength, we have had to speak well of its employment.

However that may be, whenever it has been proposed to administer it to animals, they have had it given them mixed with honey or the extract of juniper, or in solutoin in bitter infusions. The dose for a horse varies from 8 to 32 grains (from 2 to 8 drachms), and for the ox between 16 and 48 grains (from 1 to 12 drachms).

Here, we will bring our inquiry to an end. We have seen the classification of our author; we have given specimens of his pharmacological detail under each of his grand divisions, all which will speak for itself. In our next, we shall take the work of Delafond and Lassaigne in hand, and examine it after the same manner.

Foreign Department.

SUMMARY EXPOSITION OF EXPERIMENTS PERFORMED IN HOLLAND, AND BELGIUM, AND THE DEPARTMENTS OF THE NORTH, AND PAS-DE-CALAIS.

BY THE SCIENTIFIC COMMISSIONS, INSTITUTED IN ORDER TO ASCERTAIN THE UTILITY OF INOCULATION AS A PREVENTIVE MEANS OF PLEUROPNEUMONIA.

The Official Reports of the Dutch, Belgic, and Lisle Commissions, comprise documents of two different orders, between which it becomes very necessary to make a distinction one from the other, in order that we may simplify as much as possible the problem we have to resolve.

Among these documents, some have been obtained under the following conditions:

The experimenters have made choice of cattle in perfect health, and free (owing to the country by which they have been furnished) from every contagious presumable influence.

They have inoculated the animals with liquid, extracted from the lungs of the subject labouring under peripneumonia.

Once the inoculation made, and its effects obtained and passed off, the inoculated subjects have been submitted to the test of contagion, through cohabitation, at the same time with animals of the same description uninoculated, to serve as subjects of comparison.

These experiments, in which the elements of the problem to resolve, appear as simple as the matter admits of, have, as may be seen, a striking analogy with the experiments of the French commission (of which the summary has just been given in this Report), and, consequently, the results both of one and the other may be regarded as measures having the same tendency, which may be united together in the same group.

The documents of the second order possess a probative value less rigorous: they have been obtained through practising inoculations upon herds of beasts which already in themselves harboured the germ of the epizootic, or else had actually undergone its ravages, so that when the disease came to declare itself in inoculated subjects, under parallel con-

ditions, it became impossible to divine whether its development was owing to nullity of influence of inoculation as a preventive means, or to the pre-existenee of the morbid germ which this operation would have been incapable of destroying.

This necessary distinction established, here comes the summary exposition of the experiments instituted by the Dutch, Belgian, and Lisle Commissions, together with the results such experiments have afforded.

A. EXPERIMENTS OF INOCULATION ON ANIMALS IN PERFECT HEALTH.

1. *The Experiments of the Dutch Scientific Commission.*

Nineteen cows were purchased under the vigilance of the commission at Scherpurzcel and Woadernberg, loealities known to be free up to that moment from the ravages of peripneumonia.

These cows, after having been submitted for some time to rigorous observation, were, with the exception of two, all inoculated, from the 1st to the 4th August, 1853, at the extremity of the tail, aceording to the process recommended by Dr. Williams, and with matter taken from the lungs, as he pointed out.

The inoculation proved mortal for one cow, involved the loss of the tail in another, and followed its ordinary course, without any heavy complication, with variable severity, in all the others, save one alone, in whom a first inoculation proved of no avail, and who was, four weeks afterwards, re-inoculated, though with no better success.

The 6th September, when all the phenomena produeed by inoculation had ceased, we put into the same stable the 17 inoculated animals along with 5 others coming from the same part of the country, but untainted by any inoculation, and intended to serve as subjects of comparison; we also introduced into the same stable, successively, from the 16th Sept. up to the 8th of October, 5 animals affeeted with eonfirmed peripneumonia, and 1 besides, in whom the disease had a doubtful aspeet, making altogether 6, of which 4 died and 2 were cured. The number of days during whieh the sick animals remained in the stable, either all at the same time or in suecession, in contact with the subjeets of experiment, were 74: without affixing any partieular situation to the diseased animals, they were alternately put—the inoculated and the uninoculated animals, eating their food soiled with the other's slabber.

At the expiration of 38, 41, 44, and 48 days of cohabitation, peripneumonia declared itself in succession in 4 or 5 uninoculated beasts belonging to the herd of experiment, and all four succumbed to the disease.

The inoculated animals presented, up to the 28th Dec., the date of the Report of the Commission, all the signs of perfect health.

"Not one of these cows," says the reporter, "during their sojourn of three months in the infected stable, has shown the slightest sign of disease which tended to evince, even in the feeblest manner, the approach of peripneumonia. Everything, in fact, went to convince us, by the excellent condition of the cattle—their thriving aspect, and the brightness of their coats—to the contrary.

These experiments furnish a remarkable proof, according to the Netherlands Commission, that we do not deny to inoculation, a power, at least temporary, of preservation against the contagion of pleuro-pneumonia: nevertheless, it remains uncertain in regard to it, up to what point the predisposition to take the disease is lost, whether altogether, or for a limited term.

2. *Experiments of the Belgic Scientific Commission.*

Desirous of disencumbering inoculation of numerous accessory questions which the practice is apt to raise, the Commission adopted in its experiments the following simple programme:

1. To purchase healthy beasts; to observe them for a certain time, in order to feel assured of the integrity of the pulmonary organs.
2. To beg M. Willems to inoculate them.
3. To admit as preserved only those in whom this physician should be able to recognise specific inflammation, excited by prosperous inoculation; and so pronounce in the enjoyment of immunity.
4. To cause such beasts to cohabit with animals tainted with exudative pleuro-pneumonia, placing the same in conditions identical with non-inoculated animals.

In consequence of this programme, a first convoy of eight cows and Ardenne heifers were bought in localities free from pleuro-pneumonia, and inoculated by M. Willems on the 16th Aug. 1852. The 16th Sept. following, six of them presented all the symptoms of a successful inoculation.

The same day, M. Willems inoculated eight other beasts, purchased on account of the Commission at Tirlemont fair,

without any possibility of knowing if they had come from a locality exempt from pleuro-pneumonia; the Commission could assure themselves only that they were perfectly healthy. The same day the two beasts of the first lot, refractory to a first inoculation, were inoculated afresh; all those of Tirlemont, with the exception of one, having shown themselves refractory to a first inoculation, the Commissioners repeated the operation on six others, on the 18th October, and, for the third time, on one of the cows of the first convoy, already inoculated twice unsuccessfully. It reserved but two animals already inoculated without avail; one of the first lot, the other of the second, in order to submit them, without re-inoculation, to the test of cohabitation. At last, a third inoculation was tried again, but without further success, on the six animals of the lot from Tirlemont, already inoculated twice fruitlessly.

So that in all 16 inoculated animals, of which 8 had taken at the first inoculation, 6 on which inoculation was repeated thrice fruitlessly, and 2 which were submitted twice, also fruitlessly, to judge at least by the symptoms of local reaction, which amounted to next to nothing.

These inoculations completed, we put into the same stable, in contact with animals labouring under peripneumonia—

1. Two Ardenne cows and 1 ox, of the herd of Tirlemont, inoculated with success.

2. Two Ardenne cows, inoculated twice without success.

3. And later, 2 aged cows, inoculated by M. Willems at Hassell, and sent to the school of Curghim in order to undergo this test.

"From the 24th of September, the day of the commencement of the experiments of the Commission, up to the 6th of February, 1853, the date of the drawing up of the report, there has never passed but one period of one day, and a second period of eight, during which the stable has not enclosed beasts with peripneumonia, and their number has varied from 1 to 3; up to this day, all the subjects of experiment shut up in this stable have experienced no taint of cohabitation with the infected animals."

The other beasts inoculated, with or without success, have been sent through the care of the Commission, and under its surveillance, into stalls infected with peripneumonia, and not one of them has contracted the disease.

It is not stated in the Belgian report that the Commission has made the counter-proofs of these essays, as with the experiment of the French and Dutch Commissions, in placing them at once in contact with sick animals and inocu

lated subjects, and with beasts of the same country who have never been submitted to the proof of inoculation

Such are the facts which an abstract of the official reports of foreign Commissions has permitted the French Commission to obtain.

The experiments of these Commissions come to, by their results, the same conclusions as the French Commission had formed, according to its own inquiries, on the preventive virtue of inoculation, but they do not possess an equal probative worth, because they have not been made under identical conditions relatively to the number and choice of subjects and the duration of the experimentation.

Nevertheless, if we come to group together the facts obtained by the experiments of the French Commission and those of the Netherland Commission, which are sufficiently analogous to the first to bear a comparison with them, we arrive at this remarkable result, that, of 100 inoculated animals, all but 2 contracted peripneumonia, while of the same number of subjects uninoculated and submitted to the proof of contagion through cohabitation, upwards of 65 were seized with the disease and 17 succumbed.

Let us now, from the number of published statistics up to to-day, take a view of the results ascertained in practice, in having recourse to inoculation in order to prevent or arrest the ravages of the epizootic among the herds threatened by it, or who suffered from its attacks.

B. EXPERIMENTS OF INOCULATION ACTUALLY PRACTISED ON HERDS OF BEASTS THREATENED OR SUFFERING FROM EPIZOOTIC PERIPNEUMONIA.

1. *Experiments of the Scientific Commission of Holland.*

The total number of animals on which experiments of inoculation have been practised, as made known by the Netherland Commission in its first report, has risen to 247, resolving itself into

154	milch cows.
6	young cows never as yet having become impregnated.
82	heifers.
5	calves.
Total 247	

All these animals were the property of farmers in the neighbourhood of Utrecht, where the peripneumonia raged so long a time.

For inoculation, we made use of fluid expressed from the lungs of animals consigned to slaughter from the first appearance of the signs of peripneumonia, in taking the precaution of making use of the fluid during the first hours in which it had been received.

The effects of inoculation became manifest through apparent symptoms, but on 132 subjects 115 turned out refractory to it. It is not stated in what proportion gangrenous results come on, followed by death. It is not stated in what proportion gangrenous accidents supervened, not followed by death; 10 animals succumbed, being the consequences of inoculation, which may be in the proportion of 7·50 per 100 of animals inoculated successfully. Autopsy has not shown any pulmonary traces in animals who have sunk after inoculation, but of 247 subjects inoculated, with or without exterior signs at the point of inoculation, 10 have contracted peripneumonia, which is in the proportion of 6·47 per cent.

"These experiments," say the Dutch Commission, "do not tend to show the value of inoculation as a preservative means of pleuro-pneumonia," because the inoculations have been performed on herds among whom the disease had already long been prevailing; they only establish a presumption which was not converted into certainty, that when sound animals successfully inoculated shall become exposed again to the influence of contagion, they will remain refractory to it.

2. *Experiments of the Scientific Belgic Commission.*

The Belgic Commission has not accumulated less than 5,301 facts of inoculation performed. In order to obtain a mass of documents so considerable, it has added to their body the civil veterinary service in Belgium, who have given them permission to call to their aid the intelligent and interested exertions of a great number of collaborators at once.

The government have likewise given encouragement to inoculation on their side, by assimilating the losses caused by inoculation to those which resulted from the slaughter of animals ordered for the public wants, by instituting local Commissions, charged with the power of directing inoculation, and collecting the facts calculated to enlighten its history.

The total amount of 5,301 beasts inoculated, of which the

Belgic Commission takes account in its general report, is resolvable into—

Fattening beasts	2,732
Lean or dry ditto	2,189
Calves and young cattle . . .	380
	5,301

Inoculation succeeded, *i. e.*, manifested its operation by symptoms of appreciable local inflammation in 4·324 animals, of which

2,030 lived in healthy stables.
2,294 lived in infected stables.
1,077 animals proved refractory.
86 beasts (about the proportion of nearly 2 per cent. of animals inoculated with local reaction) died from the effects of inoculation.
304 (about 7·03 per cent.) lost part of their tail.
74 (about 1·07 per cent.) lost the tail altogether; and
75 (1·06 per cent.) contracted exudative pleuro-pneumonia, in spite of preventive inoculation.

Such is the statistic *resumé* of the report of the Belgic commission, in the precise form in which it has presented itself. Taking its amounts, grouped as they are, they militate strongly in favour of inoculation, as a preventive means, since, in point of fact, they go to prove that the mortality attending on this operation is not more than one and a portion per cent., and that the benefit of immunity will be derived, through inoculation, to more than 96 animals in 100. But the Belgian commission did not suppose they had left their calculations with such a signification.

As to that, the facts it has united in one account, with the view of presenting a general statistical *resumé*, are divisible into three categories.

The first comprises all facts tending to show that inoculation possesses really a preventive efficacy. This number will be about from 1·800 to 1000, according to the calculations we have made of them.

In the second category, admitted by the Belgic commission, ought to be included all facts whose probative value, in favour of inoculation, is weakened, according to it, by the circumstance that the effects of inoculation coincided with an action of disease in the intensity of the disease, and that, consequently, this actual immunity the beasts seemed to enjoy, might admit as well of explanation by this diminution of intensity of the epizootic, as by the operation of the preventive influence.

Lastly, the third category embraces all the facts resulting from inoculation which has not proved preservative.

Home Department.

THE ACTUAL CAUTERY IN HUMAN SURGERY.

Case of Extensive Phagedænic Ulceration (in a man), successfully treated by the Actual Cautery. By Dr. Chadwick, Edinburgh.

J. H. contracted a sore behind the *coronâ glandis (penis)*, which he had sufficient reason to believe was syphilitic. He went to a quack doctor, who applied caustic freely to it. A bubo was the consequence, which suppurated and broke. This degenerated into "a foul ulcer of the size of the palm of the hand," whose "edges were ragged, uneven, and undermined, secreting a thin, fetid, sanguineous discharge." The patient fell into ill health, was confined to his bed, and took sarsaparilla, mineral acids, quinine, opium, iodine, &c.

"His friends becoming alarmed, they requested that Dr. Pemberton, of Wigan, might see him along with me, and the same evening he did so. That gentleman made some suggestions as to treatment, which were carried out for a fortnight, but, unfortunately, as heretofore, without any alleviation of the symptoms; in addition to which, our patient had now profuse perspirations, colliquative diarrhœa, excruciating pain, and sleepless nights. All these circumstances combined exhausted him to an alarming degree. Now the wound extended down the inside of the thigh towards the ischium, across one side of the pubis to the linea alba, proceeding upwards, half way towards the umbilicus. As we had tried every remedial measure we thought likely to be beneficial, Dr. Pemberton informed me that Mr. Moore, of Bolton, had related a similar case to him, which also had resisted every plan of treatment, until it was resolved, as a *dernier ressort*, to apply the actual cautery, and which had the desired effect.

"We expressed a desire that Mr. Moore should meet us in consultation, and accordingly the following day he did so. After examining the case, and being informed of the treatment that had been adopted, he gave it as his decided opinion that nothing short of the hot iron would prevent the patient succumbing from the malady, to which procedure our patient, nearly worn out by suffering, at once assented; consequently it was done at once, and afterwards the parts covered with pledgets of lint, spread with cerate, composed of two parts of the cerate of resin, and one of the oil of turpentine: a draught was administered, containing forty drops of tincture

of opium, which was followed by several hours of refreshing sleep.

"In a week after the operation his appearance was marvellously improved, diarrhœa ceased, perspiration less copious, pain comparatively trifling, appetite returning; the spreading of the ulceration arrested, discharge more healthy, surface of the wound granulating, and cicatrization in some parts commencing.

"In a few days subsequent to the above report, there were appearances evinced at two or three points, at the edges of the wound, of the phagedænic ulceration re-commencing, which were, however, speedily changed on the second application of the cautery.

"It was astonishing to observe the rapid reparation of so great an extent of mischief. Granulation and cicatrization went on so quickly, that in the course of a few weeks the wound was reduced to little more than the size of a crown-piece, when the healing process became suddenly arrested; the ulcer now became of an indolent character, with thickened edges, its surface shining, and of a pale colour, and it was not before the lapse of several months that it became entirely healed.

"The last time I saw the patient was in about two years after his recovery; he was then in excellent health, but the appearance of the groin was somewhat forbidding, from the extent of cicatrix, puckering of the integument, and two or three extensive bands, that had the effect of drawing the thigh on the body, which were liable to crack and ulcerate from very trifling causes."—*Lancet, January* 7, 1854.

THE VETERINARIAN, JULY 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

Boast of our improvements in medicine as we may, we in some of them seem to be going on from year to year swimmingly, and to be advancing nearer and nearer to perfection, when, all of a sudden, we meet with some rebuff in our step onward, and feel dismayed at being told by farther experience that to make any more *improvement* we must actually retrograde—step backward: in plain language, move back into that road we have so long relinquished, viz. the road Nature herself first pointed out to us. We have lately had, both in

human and brute medicine, singular instances of warnings to lay aside our lancets and phleams, and to alter our practice in other respects from what our forefathers so strongly in their day approved of. But of this, perhaps, the art of horse-shoeing affords one of the most striking instances on record. It makes one absolutely melancholy to reflect upon the labour and pains, even of life-times, bestowed upon this art—upon the talents and cost expended upon it, and now to take a view of the present flat, unimproved condition of the art as it stands at present, and seems for some time yet as likely to stand.

Into some such train of thought as the foregoing we have been led by the accidental occurrence of a call we happened to receive from a member of our profession, who is nothing like so generally known among us, and consequently not held in such estimation, as, had his lot been differently cast, he might, and most certainly would, have stood long ere now: the gentleman to whom we are alluding, is Mr. Herbert Hallen, the veterinary surgeon of the 6th or Enniskillen Dragoons, whose *locum tenens*, the unfortunate Mr. Kelly! was lost, the other day, in the conflagration of the horse transport, 'Europa.' Very little converse had passed between Mr. Hallen and myself, before mutual discoveries were made, that we were both all but unanimous in our opinions concerning the practice of shoeing.

It was gratifying in the extreme, to meet with a man of experience whose sentiments, on a subject of so much importance as shoeing, ran in unison with my own; and, being both military characters, we soon fell into talk about the late military commission on shoeing, the principal object of which, indeed the only one which they could expect to carry, was, that of harmonising or rendering uniform methods of shoeing, which varied as much in the different regiments of cavalry as they amounted to in number. This, no doubt, was a thing to be deplored—it was more than deplorable, it was discreditable to the service; and, as such, sadly called for amendment. But, how was it remedied?—alas! how was it remedied? Tell it not in Gath?

A committee was formed, of what? Of veterinary sur-

geons? No! Of what then?—of farriers? No! But of *colonels* commanding cavalry regiments; a circumstance from which we suppose it was argued, they could not fail to know every body's business in the regiments under their several commands. Nay! but there were two (silent?) members of the profession besides. Well! what was done?

One good, certainly, was effected, the pruning knife was forbidden to be used for the purpose of pairing away the sole of the hoof, that was to be removed in no case save when it was found in the act of exfoliating. While the shoe to be nailed thereupon, was ordered to be the one of the most common or general in use, and which admitted of being fabricated by the variest tyro of the forge. The principle kept in view, was in itself good; though the sacrifice made at the time of such an opportunity offering, to have conferred a real boon on the service, was unfortunately lost, and a horse-shoe of no consideration whatever was permitted to usurp its place.

Having discussed this point, M. Hallen and myself confined our observations to the shoe itself—the shoe which ought to have formed the recommendation of the committee, and here, the only point we found for any want of agreement between us, was in *the curve at the toe*, which some (the French in particular) give to the shoe, and which he contended was in consonance with nature, while I felt inclined to think this was not the case, but rather that it was taking away what nature had intended, particularly in horses dragging loads up hill, to serve as an important fulcrum to aid them in progression. Mr. Hallen, while he admitted the use and aid of the fulcrum, was of opinion that the horse, wearing a shoe with a curved toe, was not deprived of it, but rather had still more advantage of it, since, in his opinion, the fulcrum was not at the *point* of the toe, but rather at either *side* of it; added to which, he supported the curved toe by saying, it was dictated to us by the shape of the *worn* shoe, as well as by the comparisons we were able to make between the feet and the shoes of a man and a horse. I replied, that my observations had led to a contrary opinion, so far as the natural form of the coffin bone went; and, in support of this, that I would relate an instance in point.

Having, some years ago, had the good fortune to meet with the bones of a horse's fore foot, which had never been shod, though the animal had already reached his fifth year, I macerated and afterwards carefully examined them, and found that, when placed flat upon a level table, the *entire* circumferential edge of the bone, around its base, came in contact at *every* point with the level surface; there being no visible sign whatever of rounding off of the toe. To this Mr. Hallen did not assent; but seemed to think that even *natural* coffin bones had rounded toes, which I contended, was nought but the result of absorption of the bone from repeated blows and pressure against it.

Another point of much importance in the practice of shoeing was, Mr. Hallen thought, attention of a closer kind than was usually paid to the clinching of the nails and rasping of the hoof. The practice of rasping the clinches for the purpose of sharpening them, before turning them down, and of rasping them to make them smooth, after they were turned down, he thought very pernicious. Thereby, the clinch itself was not only weakened, but actually had its hold destroyed, and so the hold of the shoe upon the foot became materially weakened. Moreover, the practice of rasping the surface of the hoof which smiths are so fond of indulging in, to make their work look clean and fresh, is to be deprecated; owing to its depriving the horse of the part of the cuticular covering which descends upon it from the coronet, and which not only serves to prevent evaporation of its juices, but takes a coat of skin off it, which admits of a polish and gloss, such as the fibres underneath, are not able by friction of giving out. Still, we have other points to mention, and some, perhaps, to have given better than we have: but our space forbids our proceeding further—we must leave off, and beg that Mr. Hallen himself will one day favour us with his own account of these practices. It will, we can assure him, form a very pleasing paper.

PROCEEDINGS OF COUNCIL.

SPECIAL COUNCIL MEETING, May 31, 1854.

Present—The President, Messrs. Dickens, Ernes, Robinson, Stockley, Varnell, and Withers, Professors Simonds and Morton, and the Secretary.

W. Field, Esq., the President, in the Chair.

The Minutes of the previous Meeting were read and confirmed.

The Secretary read a letter from Mr. Weeks, of Salisbury, acknowledging the honour of his election as Vice-President, and regretting his inability to attend the Meetings on the ground of ill health. Also a letter from Mr. Hales of Oswestry, declining the like office on the ground of his great distance from London, and consequent inability to attend the Meetings of Council.

Mr. Hales's resignation was not accepted.

The Secretary was directed to write letters of inquiry to Mr. Cherry and Mr. Charles Percivall, from whom no replies had been received respecting their election as Vice-Presidents at the last Special Meeting of Council.

The subject of the informality that occurred at the Annual Meeting, of not deciding by lot which of the seven gentlemen then elected Members of Council, should fill the place of Mr. Mayer, resigned, was brought before the Board.

Professor Morton moved, that Mr. Gowing, the seventh on the list, should take the place of Mr. Mayer.

The Secretary seconded the motion.

Mr. Ernes moved as an amendment that the Council should decide the matter by lot.

The motion and the amendment were subsequently withdrawn; it being understood that, without any specific resolution to that effect, Mr. Gowing should fill the place of Mr. Mayer.

Mr. Gowing took his seat at the Board accordingly.

The following Committees were then elected, by ballot:—

Exemption Bill Committee, re-elected, with the substitution of Mr. Stockley for Mr. Henderson, deceased.

Finance Committee, re-elected.

House Committee, re-elected, with the substitution of Mr. Ernes for Mr. Henderson.

Mr. Gabriel was unanimously re-elected Registrar, and the members of the *Registration Committee* were re-elected.

Professor Simonds in moving that the allowance to the Secretary for the ensuing year be £60, with the privilege of

residing on the premises, said he need not dwell on the efficient manner in which Mr. Gabriel had performed the duties of his office.

Professor Morton seconded the motion, expressing a hope that the time would soon arrive when the income of the College would justify an augmented allowance to the Secretary.

The motion passed unanimously.

Messrs. Stockley, Morton, and the Secretary, were named by the President as the Committee of Supervision, and the proceedings then terminated.

W. Stockley,
W. T. Morton,
E. N. Gabriel.

OBITUARY.

THE LATE MR. HENDERSON.

Sorry, indeed, should we have felt, had we suffered our late kind and benevolent friend to have decended to the tomb without one parting word from us, who, on more occasions than one, have felt the soothing influence of his wholesome counsel at a time when trouble has disturbed our mind, or we have felt any unusual annoyance. He was the minister of peace wherever he went. He came not into the world to quarrel with his neighbour; neither did he leave it the enemy of anybody. Peace and love shone conspicuously bright in his coronet; and his actions, in his intercourse with his fellow-men, all went to promote such kindly feelings. He has left a numerous family to deplore the loss of an excellent father. Three of his sons are in the veterinary profession.

Mr. Henderson's father was also professional. In October, 1779, he received the appointment from Lord Harcourt, then Master of the Horse to George III, of farrier to her Majesty Queen Charlotte, in the room of Hughes, resigned. In July, 1830, the subject of our memoir was admitted into "place and quality" of veterinary surgeon to her Majesty Queen Adelaide, which appointment he had the honour to hold up to the day of the death of that revered lady. In professional affairs, he was much attached to the Council of the Royal College of Veterinary Surgeons; with their proceedings he became so closely bound up, that from their meetings he was hardly ever known to be absent. Latterly, he filled the honorable post of Treasurer to the Royal College; an important trust, he retained to the last. His death happened (in consequence, as was supposed, of disease of the heart or some of the large vessels near it) somewhat suddenly, on Sunday, the 29th May, 1854.

Requiescat in Pace.

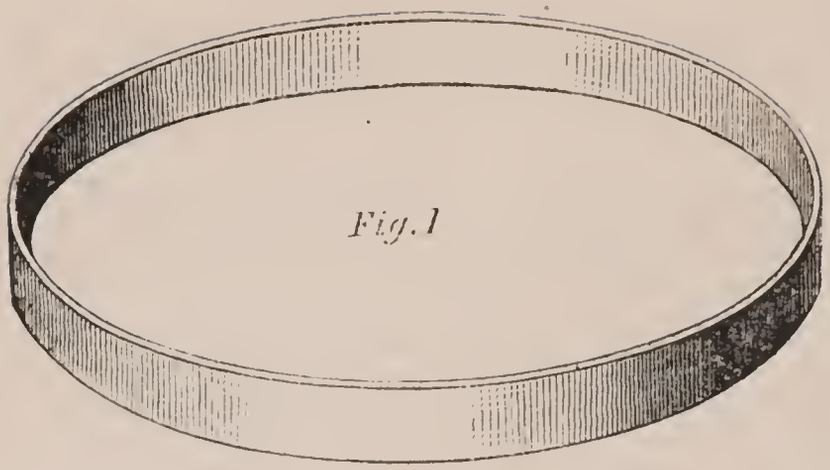

Fig. 1

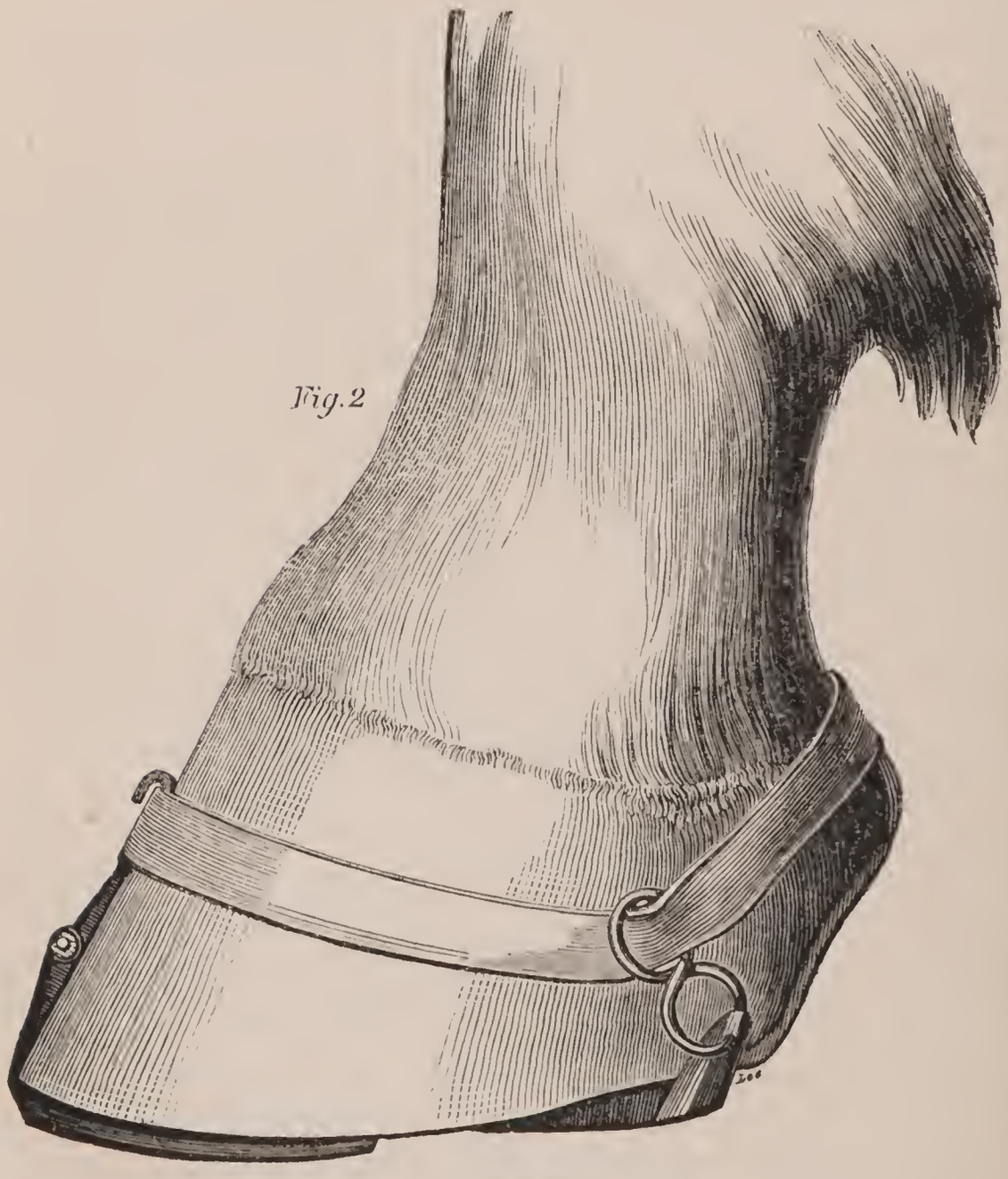

Fig. 2

IMPROVED PATENT HORSE-SANDAL.

Fig. 1. Endless elastic band.
„ 2. Sandal attached to the foot.

THE

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ON BREEDING HORSES.

By J. T. Hodgson.

In your Journal, vol. xxiii, to which I beg to refer the reader, I made a few observations on the 'Remount of Cavalry.' I should not now revert to the subject had I not seen your pertinent review of a pamphlet on the 'Deteriorated Condition of our Saddle Horses,' &c. The author being supposed to be a cavalry officer, I do not expect him to be acquainted with the subject physiologically, or to be able to render an account of the causes of this deterioration. Having written against the use of Arab stallions for breeding horses in India for European cavalry, I only intend to give some further explanation, as well as practical information in support of this opinion, which arose solely on the question of size and substance; for no sooner did a small colt appear before a committee than "*native cavalry*" was denounced. The native cavalry, however, got in these smaller horses those best adapted, from being of *Arab* blood, to the uses of light native cavalry service. In regard to form, they varied like larger horses half English blood, because this depended upon the form of sire or dam, not on breed.

Captain Nolan, being a light cavalry officer, in a pamphlet, in his remarks on horses, is in favour of such horses. So am I; but he also admitted there should be heavy cavalry horses and for this branch, and horse artillery, size and substance is expected, and horses are taken with less blood to get it.

Whoever has seen Dragoons upon small horses, or these in the limbers of a gun, would refer, as you have done at p. 618, to the difference in their qualifications for such uses. Having served my time with a V.S. of the corps, I can agree with you about the valuable horses of that time, but to what purpose? The remount of cavalry in all countries has ever

been subject to the chapter of accidents, whether a breed of horses has been brought into a country by conquerors—the most frequent result—or by sporting enterprise, or by commerce in exchange for goods. In England, the support of government was given to the encouragement of breeding racers as the *source* only of improvement of the breed; the increase of varieties, that might be required at different periods for domestic uses of the country or the army, is a subject distinct from the abstract question of improvements of breed merely, and if varieties are not produced, the *fault* is solely with the breeders, in not attending to form and action instead of pedigree; and which the introduction of Arab stallions of the highest caste would not rectify, if breeding be pursued as it frequently now is, with neglect of form and action, for whatever uses the produce are intended, for *caste* only cannot give this. Arabs vary in shape like other breeds of horses, and it rests with the breeders if either the kinds of horses we shall have at any time, for any purpose of domestic use or for the army; and they look to *profit only*, as may be seen.

A late writer, Cecil, *vide* No. 46 *Veterinarian*, p. 500, has distinctly shown them "the difference between breeding for the turf, the chase, and the road."

In our own time even, the great change has been in that of speed; that was found most *remunerative* to the breeder, whether for the turf, chase, or road; it increased the commercial intercourse of the country, which was found so advantageous that the breeders of horses for the road went still more into the blood breed; and if anyone refers to the parliamentary papers on this subject, the answers of the mail and post masters will show that increase of speed was attained only by enormous expense for horses of high blood. The result on horse breeding was, that the lower bred yet very useful varieties of horses, at the close of the last and beginning of the present century, were gradually bred out by the speedier horses, better fitted for the increased commercial intercourse of the country, when 300 post coaches changed horses in one day at Daventry.

The introduction of steam-locomotives* on railways in the

* "Mr. Mechi affirms that every farmer with 200 or 300 acres, who has not a steam engine, has a great lesson to learn, since an efficient engine of four horse power will tire any sixteen real horses, the comparative cost being £150 against £600, besides eating nothing when not at work, and economising an immense amount in various ways, in casualties and disease, attendance and food." Now some of the sixteen would be mares, out of which are bred horses for the army, this is entirely overlooked, till the scarcity of horses and the higher prices that must be paid has to be voted

last twenty years, worked out the less speedy powers of horses. A few days ago, the last mail coach, the Dorchester and Exeter, was taken off the road. Such men as the Squire and his friends no longer get upon hacks in London to meet the hounds in Northamptonshire; but the Baron and his friends risk their necks instead on the Great Northern Railway.

The fashion was set of driving a phaeton and ponies, for which ponies were bred, till we might really suppose some wished to realise the bard's words, and be "drawn by a pair of little atomies," behind which may be seen the wealthy* citizen, his wife, and children. Here, then, are the causes of the decline of the breeds, not only of our former kind of saddle horses, but of other useful varieties for which we now have no use, unless for the army, for the remount of which at the former period stated, very good selections for its different branches could be made, at the regulated prices. This cannot be done now, from the scarcity of these varieties.

There are plenty of horses, *vide* No. 74, *Veterinarian* for February, 1854. Mr. Goodwin wrote "we have double the number of horses racing now than formerly," and remarks on the "abuses of the system," *vide* No. 29. Captain Rous has done the same, *vide* No. 71, M.R.C.V.S., his remarks in quoting Craven, and your own, Mr. Editor, repeated condemnation of it; but, as Cecil remarks, "it is a question with which it is useless to deal," it being most remunerative.

Although speed and bottom, abstractedly considered, depends upon blood, yet not only in thorough-bred, but in other varieties of horses, it also depends upon shape and make, for many horses are speedy without bottom, others again have bottom without speed, from this cause alone, but are deficient in that "life and spirit of super excellent kind," which produces speed and bottom only to be known by trial, arising solely from *breed*, when "they race in all forms," as it is said. For instance, a horse that has racing form for speed has stride, which a horse of opposite form has not, yet has bottom, because not exhausted by speed—and it is not difficult to understand *this*—is very different from the bottom arising from breed. In other words, if the former covers at "one bound† 24 English feet," and the latter cannot, he

by Parliament, then comes the pinch, increased taxation. No doubt there are great advantages in steam, but there are also disadvantages, and this is one, the diminution in the supply of varieties of horses.

* The Chancellor of the Exchequer should tax this fashion, if the object is to breed army horses.

† At Newmarket, there are two courses, the long and the round. The

must be beaten by the former, unless "life and spirit of super-excellent kind" outdoes the former's stride, by repetition of action, by increased muscular motion. Without this the latter is an indifferent racer, though adapted by form for a *charger*. We had an instance of this in the late Duke of Wellington's charger, 'Copenhagen,' any one can see his form was of the latter description, and by reference to the *Illustrated London News*, Nov. 20, 1852, £400 his losing account as a racer. The present system of racing did not deteriorate this horse for the subsequent purposes to which he was applied, for he had not speed enough as a racer to do himself injury, like speedier horses; these are not by form adapted for chargers, which are required to bend the knees, and to bear fatigue under privations.

The late Professor Coleman, who, by-the-bye I delight to quote for his horse knowledge, albeit he was no practical horseman, in 1814, said, "the cause of the increased lameness in the fore-feet of horses is our getting so much into the blood breed. When a man wanted to breed a horse, he looked only to the pedigree of the stallion, not to his form and action, whereas, if he wanted to breed a *saddle horse*, he should like him to bend his knees, not to go near the ground, the action of which is the result of racing form."

The late Mr. Apperley (Nimrod) was of the same opinion when he wrote, "it is the pace that is the cause of lameness in the fore-feet." The antecedent one was that of breed, which gave the "pace."

Mr. W. Percivall sent a paper on "Conformation of Horses" to *The Veterinarian*, to which I would refer* the reader, but the number having been lent to me in India I have only a copy, which I thought it of importance to take, as I was then attached to the stud department, and had opportunities of observing the truth of the doctrines therein stated. He wrote, "in confirmation of this, how often does it happen

first is 4 miles and about 380 yards, *i. e.*, 7420 yards; the second, is about 6640 yards. Childers considered the swiftest horse ever known, has run the first course in seven minutes and a half; and the second, in six minutes and forty seconds, which is at the rate of more than 49 feet in a second. Some race-horses cover at one bound about 24 feet (English).

Now the swiftest Arabians, on the turf in India, have only done the following, *vide* 'Sporting Mag.' 1829: "3 miles, or 5280 yards, in six minutes and seven seconds, which is at the rate of only 42 feet in a second; 2 miles, or 3520 yards, in three minutes fifty-nine seconds, which is at the rate of only 44 feet in a second." As the charge of cavalry is mathematically calculated, it is evident that English horses have the advantage of from 5 to 7 feet in a second.

* Since reprinted, *vide* cover of 'Veterinarian.'

that we are astonished at the excellent performances of some mis-shapen horse, and equally surprised and disappointed at the inability of another, whose pretensions, according to the laws of beauty and proportion, are of the very first order."

"We must look to *material* or texture, to organization, and to nervous influence, which these solutions seem comprehended in the vulgar sense under the head of breed or race. For instance, when we say that a horse is required to be well bred, in order to combine speed and bottom with strength, we mean that the texture of their bodies should be of a finer and superior description to that of others, that their organization should be correspondently better wrought; and that their nervous or vital influence should be of a higher caste. These constitute the corporeal differences between the race horse and the cart horse; between an animal of breeding and no breeding. It is a curious but well ascertained fact, that portions taken from any corresponding bones in the bodies of these respective animals, are, with all their differences in magnitude, of nearly equivalent weights, proving that one contains as much material as the other; the difference being, that in the one it is more densely and better wrought together, consequently better adapted to quick motion, while it still possesses unrivalled strength and resistance. So it is with muscle, so with every other structure.

The organization of such an animal, the system whereby every part is furnished with nutriment, is of a correspondently more perfect description, and the nervous texture that which vitalizes every part, and infuses the spirit of exertion into it, is such as to endow it with more life and spirit or life and spirit of a super-excellent kind."

Now, are English thorough-bred horses deficient in this compared to Arabs? All the *facts*, both on the turf and in the chase, go to negative this, speed and bottom has often been tested, and the English thorough-bred horses have invariably proved superior in both to Arabians and Tartar horses. The former outstride the latter, though the bottom might be the same, for in this scientific elucidation of breed, it is the same, abstractedly considered, in thorough-bred English or high caste Turkish or Arab horses. The increased stride of the former is diminished by crosses with the latter. It is from Turkish and English horses size is derived, density of tissues, organization, from Arabians, such is the evidence on examination.

The Herod blood originated in the Byerly Turk, a foreign horse. Pigott's introduction states, "*Toorkoman* is doubtless intended to express a breed of horses totally *distinct* from any

other of the species, deriving its name from Turkistan, one of the six divisions of South Tartary, north-east of the Caspian Sea, famed in ancient history for having produced a *pure* breed of horses;" therefore, the origin of English thorough-bred horses is not Arabian only; besides, it is well known to all who have any horse knowledge, that horses are called Arabians in the East that are not pure Arabians, and Toorkomans that are not pure Toorkomans, both have not unfrequently mixture of Persian blood. Arabians are called Tazees. "The Tazee is of a distinct breed from the genuine Toorkoman, whose origin is beyond the reach of inquiry, but a comparative view of the constituents of the two horses may better aid this opinion than the flimziness of conjecture, while common experience will confirm the dissimilarity of their general properties." Pigott has not described either Toorkoman or Arabian, because these are foreigners in India as well as in Europe. I have seen but few of the former, and these were larger horses than the latter. I have seen many of the mixed breeds (now become scarce in India), and these agreed with his description. "The Tazee cross is in general higher than the Toorkey, his withers lean and well raised, whereas the Toorkey is usually rather inclined to be heavy in the forehand, and oftentimes lower before than behind, with his shoulder less free, but is broader over the fillets than the Tazee, having also, for the proportion of his height, a deeper waist, a fulness at the setting on of the head, which prevents his yielding duly to the hand, is a fault very common to Toorkies, and rarely found in the Tazee, but one of the strongest and least variable, is the appearance of the vertebræ and the carriage of the tail. In the Toorky the former appears to be sunk between the rising muscles on each side, "and he is much more round and plump in the croup, than the Tazee; and the tail, though well carried, starts somewhat abruptly from the croup, whereas, in the Tazee, the vertebra is distinctly seen rising above the muscle on each side, marking strongly the joints of it, carrying the tail clear of the croup, in resemblance to our English hunter. The Toorky's ears are large and lax, whereas those of a Tazee are remarkable for form and expression."

"In opposition to placidity of temper in the Toorky, the organs of sensation in the Tazee are often so exquisitely delicate, that the smallest abuse of them renders the latter fretful and impatient. *Moojiniss*, applied to the best of the breed, means the immediate offspring of the Toorkoman and Tazee, and in general acceptation is a mixture."

"A purchaser ascertaining a horse to be of the castes

before described, can readily inform himself of the properties attributed to them, an advantage not equally attending the choice of a Moojiniss, whose qualities will most probably be in proportion as he shall be near to the stem of his original progenitors. A horse many removes from them, being, equally with the immediate offspring of the Tazee and Toorkoman, denominated a Moojiniss; a peculiar difficulty, therefore, attends the selection from a class so variously partaking of the mixtures from which they may be sprung. Among this caste are to be found both light and heavy horses, according as they partake in conformation of the Tazee or Toorkoman; and they are distinguished by the terms of the Tazee or Toorky Moojiniss. A Moojiniss, for instance, produced by a Tazee upon a Toorkoman mare will most probably resemble the dam more strongly in make than the sire, and *vice versâ*.

Well, then, the Herod blood originated in the Byerly Turk; the Matchein blood in the Godolphin Arab, and the Eclipse blood in the Darley Arabian, all foreign horses, and if we refer to the dams, we find that English thorough-bred horses are what are called in Asia *Moojiniss*, a mixture of English, Turkish, and Arabian, and if any advantage to English thorough-bred or other varieties of blood horses, can be derived by fresh importation of Asiatic blood, it would only be in the same manner in which it originated, by the re-union of both, and not by one only, as has been so often suggested, without due consideration of what is wanted, which has been supposed by some to be blood only, *i.e.* organization; by others form; by *both?* Doubtless, English thorough bred horses inherited qualities from each of these *distinct pure* breeds, that could not now be obtained by the introduction of either separately, supposing even stallions of these breeds, of similar qualities, were procurable. The organization of Turkish and Arabian horses is different, as shown by the difference of temperament, shape, and make, the concomitant of it, in these distinct breeds when pure, and when these breeds are missed. Seeing that this is the result, it is not to be wondered at that turf men prefer in horses those qualities only that best answer their purpose, and make use of these accordingly; therefore, I doubt if either the breed of thorough-bred or other blood horses could be equally well kept up in any other manner than it is at present, and least of all by any interference of the government with the present system of racing, as, notwithstanding, I am as equally averse to the abuse of young horses as others are, still I believe it to be the best, as the only *true source* of

improvement. As to breeding horses for the remount of cavalry, those governments* who have attempted this, have not been equally successful as Great Britain and Ireland have hitherto been, in providing horses by commercial enterprise only. It is requisite that breeders who intend to breed horses for domestic use, from among which horses for the army are selected, should pay less attention to pedigree and more to *form* and *action* of the stallions they use, whether these are our own thorough-bred horses, or Turkish or Arabian horses that may be imported; for I have no objection to either, as long as breeders attend to the former advice. The newspapers informed us Captain Nolan had gone to Turkey to purchase horses for the cavalry, and if there are any left at the close of the war, selections could be made by him of horses of *high caste, form, and action adapted to get cavalry horses;* and if the qualities of the produce are to be put to the test, let it not be as racers for which they certainly are not qualified, but as cavalry horses, let it be a Tartar race which I warrant will try if they have any bottom, the subject of complaint. But while, as may be seen by Captain Rous's statistics, half the horses bred are not racers, are unfit, and left for domestic uses, though had they not been bred for the former, they would not have been for the latter, it is best to let these racing matters remain as at present. It is admitted they produce *large* horses, and these are required as stallions for heavy cavalry horses, and *speed* more than ever. Why grumble then? we shall not get *this* if the system of breeding and racing is changed. Try experiments, but let these be isolated ones, so as to be able to judge correctly as to the results, which cannot be done by mixing with turf matters, when for the army only horses are wanted.

To carry out this, there are Royal forests, in the vicinity of which, Arabian stallions might be used, or what would be better, to form a home stud, and use the produce as stallions.

The lands of Hissar Ferozeh, the hunting residence of Shah Feroze, was given up for the Hissar stud, where there were 50 English and Arab mares, two English thorough-bred, and two Arabian stallions, the produce have been used as stallions, after selection, in the province of Dehli, *vide* "Register."

* *Vide* No. 59, 'Veterinarian,' for November, 1852.

IS STRANGLES PREVENTIVE OF FARCY AND GLANDERS.

By the same.

(Postscript.)

With reference to the contagiousness of strangles, I should have added, that I never knew a *horse* to become farcied or glandered, whom I had known to have had strangles when a colt at an early age, and to be discharged *cured*, and subsequently be in *good condition*. Whether this milder form of disease be preventive of the malignant one, I am not prepared to say, more than I have done, but the impression on my mind is very strong that it is so. I am not going at present to enter further into it, than to beg leave, through your journal, to put the question to those in charge of horses for a long period, whether they can confirm what I have here advanced, or state cases to the contrary; *i.e.*, whether No. 27 of A troop, or No. 36 of C troop, now farcied or glandered, appears in the register as "discharged cured," the dates between, strangles regular, *i.e.* affecting the *sub-maxillary gland only*, or irregular, affecting *other tissues*, as the lungs, &c. I regret I had not myself longer opportunities of following up this enquiry to a practical result—the prevention of glanders and farcy; but, notwithstanding the oft-told tale of the apathy of English veterinary surgeons, I am sure I have only to mention this to be quickly and ably responded to.

MR. MAYHEW'S REJOINDER TO MESSRS. DUN, &c.

To the Editor of 'The Veterinarian.'

Sir,—I lament that Mr. Robert Dun's mode of speaking about an unknown individual has placed a barrier between him and me which totally prevents the possibility of there being any communication betwixt us.

I may much regret this, but the recognised rules of conduct in the circumstances leave me no choice.

I have the honour to be,
Your obedient servant,
Edward Mayhew.

7, London Street, Norfolk Square,
Paddington; *July*, 1854.

VETERINARY OBSTETRICS.

By Mr. Younghusband, V.S., Greystoke, Cumberland.

Mr. Editor,—In relating the following case, I will not take up much of your time, but, as there seems to be a little dearth of practical results, it possibly may find a place in your journal. On May 2d, 1854, a veterinary acquaintance of mine, whose name I forbear to mention, was called upon to attend and assist a mare in difficult parturition. To make short, I will not enter into particulars. When he arrived at his patient's, he found her with severe labour pains, the head and fore feet presenting; at the same time, one of the hind feet and leg, as far as the hock, presented itself also; and I suppose to attempt to extract it in a position like this, was considered useless, or almost amounting to an impossibility: so embryotomy was tried; but, either from a want of confidence in the operator, or that steady perseverance which such cases require, the operation was suspended, and my friend requested I might be sent for. When I arrived, I found that the head, neck, one fore leg and shoulder had been removed, and then, somehow or other, the case had been abandoned. Being thus far proceeded with, I made an examination, per vaginam, to feel if I could satisfy myself as to the relative position of the other hind leg; but the passage was so completely blocked up with the body of the fœtus, that I found it was of no use persevering, so I was obliged to succumb, and rely upon conjecture. The fœtus being so far advanced, and so firmly impacted in the passage, to push it back, so that the hind leg might again be returned *in uterum*, and to attempt to draw it away in this position, with, not improbably, the foot and leg *in utero* lodged against the brim of the pelvis, I coincided with my coadjutor would be of no avail; so I took my knife, slit open the skin of the remaining fore leg and shoulder, and, by a little perseverance, soon had the limb in a state (as I imagined) to be drawn away. I now fixed a strong cord to the limb, confided it to my assistants, telling them to pull, while I was engaged in separating the remaining portion of the interscapular muscles; but they were loathe to use that force which was required to draw away the shoulder (because for want of room I could not make that separation of parts, otherwise I would have done it.) But I was not thus to be foiled, and I encouraged them to use their strength freely, as I was confident we were accomplishing our task. So they did pull, and freely, and to our great surprise,

the remaining portion of the fœtus was drawn away entire. Now, had this not taken place, and the fore leg and shoulder been drawn away without the rest of the body, it was my intention to have drawn the body of the fœtus as far forward as possible, then disarticulated the vertebræ, separated the adjoining muscles, and pushed the remaining parts back, and, as it were, turned them head over heels, and delivered as in a breech presentation. This patient, who was a young, strong, healthy cart-mare, was well prepared for the task. Had she been otherwise—a weak, wavering, narrow-boned mare—how would the case have stood? As it was, the case may appear simple indeed; but, reverse the question, and the task might have been all but pleasant. After delivery, for a time the mare appeared weak and sickly, but, by applying proper remedies, she soon became convalescent. If what I have written should meet the eye of my friend, I hope he will view it with that spirit of candour with which it is written, as it is not meant to detract the least from *his* merits: it is not written in a spirit of rivalry, but of friendship; and, as it appeared to me to be a case seldom described, I have taken this opportunity of recording it for the benefit of that science which I so ardently admire. At the same time, it will show that we ought to—

"Despair of nothing we would attain:
Unwearied diligence our point will gain."

PECULIARITIES OF STRUCTURE OF AN HERMAPHRODITE.

By G. Lewis, M.B., V.S., Monmouth.

Dear Sir,—On the 10th ult., I was called to attend a sucking colt, the property of a gentleman in the country, a few miles distant from this town. It was reported not "to make water" properly, and also to have "a swelling upon the near fore leg."

Upon examination, I found such to be the case, and also that the colt was an hermaphrodite. There was not the slightest trace or formation of a penis, scrotum, udder, abdominal rings, or vagina, yet the urine was voided copiously, but not in such immediate quantities as in the mare, nor in the comparatively prolonged stream of the male. But, to use the words of the servant, "he made plenty of water, but he dribbled it."

The formation was as follows: The urethra was continued only as far as the commencement of the pubes, where it terminated in a complete vagina—*pictura minuta*. The sheath terminated where the scrotum should have been; and, at its extremity, on both sides, were formations resembling teats. The umbilicus was situated where the sheath usually terminates.

I found the little animal suffering from inflammation of the off fore fetlock joint: I have this year had more patients, from a week old and upwards, suffering from this disease than in any preceding year for the last eight years. In every case, the bowels are constipated, or *vice versa*; one or more of the joints are swollen and inflamed—generally either the fetlock or "stifle." Frequently metastasis occurs to another joint. I have observed that, should the fetlock first partake of the disease, and metastasis occur only to the opposite joint, the animal usually recovers; but, should metastasis occur to both stifles, or should one of these joints be the original seat, and metastasis occur to the other, the case generally terminates fatally.

Post-mortems disclose a highly inflamed state of the synovial membrane, and a vitiated appearance of the synovia, and frequently, structural alterations of the capsular ligament at its connexion with the bone.

Upon enquiry, I have invariably found that the disease has always supervened upon the dam being put to work, but never occurs before.

Yours truly, &c.

ACONITE; ITS EFFECTS.

By the same.

A PONY was suffering from influenza, in a locality where a whole team of horses had suffered more or less from pulmonary affections. The usual remedies had been employed, but bronchitis had now commenced. I was resolved to try aconite. I accordingly sent aconite guttæ x. (Flemmin's tinct.), aquæ ℥vi dwts. ij; half of the mixture to be given immediately, the remainder in six hours afterwards.

Having other engagements, I did not return until three quarters of an hour after the administration of the first dose, when I found that I had been summoned to attend as "the pony was dying." I hastened to see my patient, and

found him standing up. Pulse soft, easily compressible, and numbering 87, and closely resembling that kind of pulse which indicates that dissolution is about to occur after a protracted case of enteritis. There were convulsive twitchings of various muscles, especially of the facial, intercostal, and pectoral, while the hinder limbs appeared scarcely able to perform their office in supporting the animal, and its unsteady standing reminded me of that peculiar effort which is made by cows to remain upon their legs immediately before "dropping after calving." The extremities were cold. Inspirations nearly natural; before having the medicine they were about 26 per minute.

I received the following account from the persons in attendance:

"Within five minutes after giving the medicine the pony began to tremble violently, and its hind legs seemed to lose all power of supporting the weight of the body. It lay down, or rather dropped, was convulsed all over, frothed greatly at the mouth, and seemed to be swallowing something very quickly. These alarming symptoms continued for 15 or 20 minutes, and then began to abate," which left him in that state in which I saw him.

The above symptoms coincide with those given by Dr. Christison, in his 'Dispensatory,' of an overdose, with a few exceptions. "Paralysis of the whole voluntary muscles, but *without coma or convulsions;* diminution of the *force and frequency of the pulse, which sometimes sinks to* 40."

The dose here administered could not have been an overdose, for, adds Dr. Christison, "the dose of Dr. Flemmin's tincture is ℿ iij to ℿ viij. It is inconveniently strong, and would be better diluted with twice its volume of spirit."

I would add that the pulse gradually *lowered in frequency*, while it *rose in force*. The bronchitic attack entirely ceased, and the pony did well.

CASES OF CANCER IN HORSES.

By Mr. John Barlow, Edinburgh Veterinary College.

On the morning of Dec. 11th, 1853, a brown horse belonging to Mr. Tod, gardener, Eastern Road, was brought to the College yard as a dispensary patient. He had been in pos-

session of his present owner for several years, and was used for gig or light-cart work. Until recently his health had been good. Towards the end of October last, he appeared somewhat dull, and declined eating anything but corn. He continued at work, however, but showed a singular forgetfulness (if such it may be termed) of roads he regularly travelled, and was continually apt to turn in the wrong direction. At this time he had a dose of purgative medicine, which operated freely.

About the middle of November his near eye became dull, and towards the end of the month, as the servant said, "*a slough*" formed upon it. This was dressed with some caustic. Nothing further was done for it until the day of his attendance above mentioned (Dec. 11th). On this occasion he reeled much in walking, and could not turn round without apparent danger of falling. The cornea of the near eye was quite disorganised, and seemed replaced by a thick, vascular, fungoid texture, of a dark pink hue. This fungoid growth was most abundant at the inner aspect of the cornea, where it became continuous in surface with the membrana nictitans, which presented the same appearances in an aggravated form. The eyeball was unnaturally prominent. Lunar caustic was applied to the diseased surface; cloths constantly wet with cold water were ordered to the same parts, and to the entire head. A dose of physic (aloes) was also given.

From the 11th to the 23d the water dressing and caustic were continued. The pulse reached 65 and sometimes 70 in a minute, but was always soft and compressible. The appetite never returned, and the evacuations were of course scanty. Great lethargy was almost always present, but the horse could mostly be excited to move without much difficulty.

On the 24th, and during the two subsequent days, he fed a little; the pulse fell to 50, and became firmer in tone. The near eye was more protruded; the exposed and hitherto healthy margins of the sclerotica were partially concealed by, and involved in the fungoid mass, which projected from the affected tarsal and ocular conjunctiva. The right eye also looked dull internally, and the cornea was somewhat opaque; these appearances, however, might be due to compression from behind, for there was not any sign of structural disease in the ball. A copious discharge of sanious fluid came from the near nostril; no ulceration was visible in the Schneiderian membrane, and, indeed, the matter was quite unlike that seen in glanders. The whole outline of the head seemed unnaturally round, decidedly swollen in the near temporal region,

and a large, bulging, convex prominence occupied about four inches of the frontal ends of the nasal bones, and disappeared on reaching the plane of the supra-orbital processes.

From the 24th to the 30th, he never lay down, took scarcely any food, was quite lethargic, stood with the legs projecting in four different directions to give his reeling body the best mechanical support, and the drooping pendulous head was generally turned to one side. On this latter-mentioned day (the 30th), it was considered best to destroy him. Whilst being brought out of the stable he fell down, and, strange to say, rose again instantaneously; this he did for three times successively. On recovering his feet for the last time, he would not advance another step, and had to be killed on the spot.

I did not see this horse during life. After attending a few times as a dispensary patient, he became unable to walk, and was kept at home under the professional care of Mr. Sheriff (then a student, now a graduate of this college). The foregoing account is abridged from notes which Mr. Sheriff recorded, and kindly supplied at my request. The head was brought to town and dissected by me the same day (30th).

External appearances.—The left eye and its outward appendages were much protruded, as well as concealed and structurally involved in a fungoid growth, most prominent on the cornea, membrana nictitans, and conjunctiva. This growth was of a dirty flesh-colour, partially covered with bloody pus, friable in texture, and vascular; it reminded one of appearances seen in the profuse granulations of a cankered foot, after their vascular surface is exposed by scraping away a few hours' growth of abortive horny covering. The right cornea was opaque, but structurally entire, and no visible organic disease was observed in this eye The swelling on the face was elastic, a condition evidently due to softening of bone and swelling beneath. The temporal swelling was mainly œdematous.

Dissection.—After removing the facial integuments, it was found that the elevated nasal bones, and contiguous borders of the frontal, lachrymal, and superior maxillary bones, would readily cut with a strong knife. Their subcutaneous surfaces were accordingly sliced away; a tumour was found lying immediately within, and occupied almost the entire cavity of the cranial and facial sinuses. It was slightly attached to the osseous roof and sides of these cavities, and had induced caries or interstitial absorption of every bony surface with which it came in contact. The upper third of the septum-nasi, the hard bony plate dividing the cranial from the facial

cavities, and the inner bony wall of the left orbit, were destroyed, and their places occupied by the morbid growth. Superiorly, the upper end of the tumour rested directly upon the anterior portion of the cerebral hemispheres; the two lay in apposition without admixture of texture, but this part of the brain had undergone absorption, or compression possibly also, so as to contain the tumour in a depression corresponding closely in size and shape with the hollow seen in the larger valve of an oyster shell. The dura mater was perfect and free internally, its outer surface was attached to the tumour. Its left margin invested the eyeball and appendages, was continuous with the external fungoid growth seen during life, and extended about halfway down the outer wall of the maxillary sinus. Its right margin lay in contact with the right inner orbital wall, and passed down the corresponding facial sinuses; these cavities, however, were not so completely occupied as those on the left side. Below, the tumour extended into the upper part of the posterior nasal opening, where it presented a softened appearance; it then passed into the left side of the pharynx and involved the corresponding pterygoid muscles, the contiguous salivary and lymphatic glands, and encroached greatly on this side of the Eustachian cavity. Parts of the mass most subjected to pressure were of a dirty white, and in some places of a grayish colour; portions lying free in the sinuses, again, were pink or flesh-coloured, and vascular. Taken as a whole, its general hue resembled that of a slightly decomposed brain. Its surface was nodulated; its attached parts graduated more or less pereeptibly into the contiguous bones, muscles, and membranes. The brain was the only adjacent part which was absorbed or compressed, without being structurally changed. Its consistence varied; the superficial parts were mostly softer than a fresh healthy brain, the internal substance was more solid. An incision carried through in any direction showed much the same colours as appeared outside, and exposed occasionally diffused spots of extravasated blood, which extended to the surface.

Judging from the general aspect, consistence, and other external and internal appearances presented by this mass, I at once recognised its striking resemblance to *encephaloma* as seen in the human being; and an examination of its structure by means of the microscope, soon convinced me that it was a true *medullary* or *encephaloid* cancer, partaking in some parts of the *hæmatoid* character. An exceedingly attenuated mesh of delicate fibrous tissue was detected in plaees, but not disposed so as to form a uniform or substantial framework.

The mass of the tumour consisted of simple and compound cells, naked nuclei, and a semi-fluid albuminous substance, containing molecules and granules in great abundance. Some of the compound or "mother-cells" were the 600th of an inch in diameter. The majority of the ordinary cells varied from $\frac{1}{250}$ th to $\frac{1}{1500}$th of an inch; they were either spheroidal slightly ovoid in form, and presented that peculiar softness of outline so characteristic of cancerous growths. Their eccentric nuclei were usually so large as to extend two thirds across the cell area, and the nucleoli were distinctly marked. Acetic acid rendered the cell-walls transparent, and the nuclei more distinct.

I showed the growth to my friend, Dr. W. T. Gairdner, the eminent pathologist, who said, no reasonable doubt could exist as to its being an encephaloid cancer. Dr. Bennett, professor of physiology, and Dr. Haldane, pathologist to the Royal Infirmary, also did me the favour to examine this structure microscopically, and considered it to present well-marked features of encephaloma.

I am anxious to record these facts, because cancer is comparatively rare in the horse, and home veterinary literature furnishes scarcely a case wherein the true character of so-called cancer was verified by careful dissection, and examination under the microscope.

Another, and in fact the only other case of cancer which I ever saw and accurately determined, occurred in our practice during last summer. The subject was an aged horse belonging to the Earl of Caithness. He became gradually ill, and grew worse and worse under some hepatic disease, the nature of which was doubtful during life. Being useless in other respects he was destroyed. The liver, although not weighed, was evidently four or five times its natural size, and had formed extensive adhesions by its posterior surface to every contiguous viscus. It presented extensive cancerous disease of the carcinomatous and encephaloid varieties. This was confirmed by microscopic examination made by Dr. Gairdner and myself independently.

Malignant growths are remarkably rare in the lower animals. We do, no doubt, see cases that *are called* cancer, but according to my own experience, most of these have proved not to be cancer when accurately examined. I have, however, seen various cancer cases in the ox, but oftenest in the bitch, showing that the disease is more frequent in these animals than in the horse.

Youatt's description of cancer in the bitch is not precise enough to show whether the mammary tumours he describes

were really cancerous. I have often removed such from the living animal, and almost always found them to be glandular cystic tumours. True cancer in the bitch seems to be most common in the vagina.

We know little as yet regarding the laws which determine its sadly frequent occurrence in the human being, and its relative rarity among the lower animals. The present, however, is a time when great attention is bestowed in cultivating the important science of comparative pathology. Veterinary surgeons could do much to assist in this, and the pity is they do so little.

"THE KING AND VIZIER."

By Mr. Hodgson.

No. 1.—"*Hindostanee Story Teller.*"

"A KING said to his prime minister, 'I would have an army.' The vizier replied, 'Sire, first collect money into the treasury, for where the honey is there will the flies be also.'"

I am not satisfied in making extracts from Lieutenant Pigott's treatise, therefore I send it that you may draw your own conclusions therefrom. From my experience, I think him right; whereas the nameless author of the pamphlet on saddle horses, I believe is in error on several points; though no doubt he is a good partisan, he did not like appending his name to propositions he knew would not meet the interests, and in consequence not the wishes of the influential parties concerned on the turf; yet, I believe, there are among them numerous patriotic individuals, who would go to the expense, for such it would be, of coming into the views of the writer, to breed and keep horses purposely for such races as he has described, but they know it would fail in its object—the production of stallions to get army horses. Selections of this kind can now be made from the *slow* horses with forms adapted to the purpose of the breeders of army horses. Direct their attention to *this object* only, and not to speed; and the best way to do this is for the *money* to go direct into the breeders' pockets by way of encouragement, "for where the honey is there will the flies be also." A few lumps given in the manner proposed to a few large flies to breed these kinds of horses, as stallions to get army horses, would be of no use, being too limited.

When we look at Persia, situated as it is between Turcomania and Arabia, we find it has always produced excellent

army horses by union of the races of horses of the two countries. When we extend our inquiries further, we find the separate races, however suitable they may be for the countries in which they are bred, are, nevertheless, unfit for the purposes of a regular army in other countries, whether we take the offspring of Tartar or Arab horses. In Russia, where the former blood is predominant, recourse has been had to Arabian and English horses to improve the breed. In India, where the same course has been adopted, and the Arabian blood is predominant, as it is in England, the same results have happened. Complaint is made by cavalry officers in both countries of the horses being of that form as if they were intended to be bred for speed alone, and it is therefore very evident that the introduction of Arabian stallions into our counties where horses are now bred for the army would only *increase* that now complained of; besides at once *decreasing* the size of the produce, and still more deteriorating the produce for regular cavalry, though not for irregular cavalry, for these little Arabian or Tartar horses are very well adapted for this kind of warfare, the more so the hardier they are bred. But how are we to produce horses for our heavy dragoons and horse artillery? This is the question that has to be considered by the Government in any plan they may adopt for the encouragement of the breeders of such horses, and none can be better than that I have stated, at whatever period the produce may be purchased. Captain Hely, in *The Veterinarian*, No. 32, for August, 1850, p. 463, has shown the financial advantages of purchasing at four years old, and, with proper encouragement, the breeders would keep the produce and sell them direct to the service, without the loss now derived as profit by the dealers. This is done in India, but is obliged to be carried out at an earlier age—for a yearling 100 rupees, and so on for older colts: *vide* accompanying papers, from which you or any one can see that the defect of the Indian stud system is the placing stallions in circles, or districts, of twenty-five mares, many of which might not be of form fit to put to the horse. This arrangement was ordered by the Board of Superintendence, mostly military men, who are no doubt very able to organise anything, but nature will not be drilled into uniformity in this manner. This indiscriminate crossing—for when one horse died *any other* was sent to replace him—would not produce cavalry horse form or action.

The stallions should have travelled, although more expense, and superintendents should have advised the natives what mares to send to each, to get a variety with good chests

and broad over the loins, capable of enduring the fatigue and privations of a campaign—not such horses, quite the contrary, as described by Mr. Hurford, in *The Veterinarian*, No. 59. But I fear it was very little use this judge of what a cavalry horse should be writing this letter. No one knew better than the late General Sir W. R. Gilbert, who was secretary to the Board at the formation of the present stud system; but the working of it depended on the *knowledge* of the superintendents of the form of horse required for cavalry.

Dependence cannot be placed on Russian statistics, yet, by all accounts, that government has beaten that of India for the time she has attended to the encouragement of the improvement of the breed of horses. But in the production of army horses, I believe that has arisen from the Tartar blood being most predominant, rather than from any systematic proceeding. The late Mr. Moorcroft, poor man! was so aware of the want of this in India, that he not only sacrificed his own life, but that of his fellow-traveller, Mr. Trebeck. He had procured some valuable Turkoman stallions for the stud; and it was supposed both were poisoned to get possession, the more easily, of their horses and property.

We find the purchasing officer, and Mr. Hurford, of the 15th Hussars (*vide* his letter in No. 59), preferred the Toorkies of Candahar* to the stud horses of late years, about which of course I cannot write, but in my time the stud horses were the *best* procurable in India for the army; of the cause of the failure since, some other of your correspondents there may be able to explain. Mr. Hurford has partly done so; he should have got hold of a printed but unpublished pamphlet by the late Mr. Moorcroft, being his correspondence with the then Board of Superintendence, which would have let him into the origin of the stud system. The Board has been composed of gentlemen who had to take into their consideration other things besides the practically carrying out the improvement of the breed of horses, the principal

* It was easy enough for the officer and Mr. Hurford to purchase in Candahar during occupation; at other times the risk to horse merchants is very great. In Runjeet Sing's time few passed through the Punjab. They came viâ Bahawulpore, Butnier, and Hissar. While I was there, one party on its return, although escorted by Skinner's Horse, were robbed at Tuttiabad, twenty-one miles from Hissar, by the Batties, a tribe on the border of the desert, to whom the place belonged. They had to wait months at Delhi, and military force was obliged to be sent to compel restitution from the chief. These chiefs give protection through their own territory, and if it is not obtained, always share in the plunder. One merchant had been at *Moscow* in 1811, in 1817 he was at Hissar.

one being the *finance** of the subject. They all knew Story No. 1, upon which the whole matter hinges. There (as Cecil wrote it does here) it must be remunerative.

In my paper on the Remount of Cavalry, I wrote I would offer a few observations on the influence of feeding on size of horses. I am not prepared to admit the doctrine put forth by the author of this pamphlet, that "form is produced by extravagant feeling." That there is a difference in the form or outline of a fat and a lean animal we all know, but no further. All the rest can only be reproduced by intercopulation. Feeding never gave position to the shoulders; the capacious cranium of the thorough-bred horse, with corresponding nervous energy; a long forearm or thigh; a deep or shallow chest. The density of the tissues remain while the horse is thorough-bred, notwithstanding high feeding. There are differences in this respect in wild and tame animals, and the racer, as a domesticated animal, when young, is like other tame animals; but this has no effect on his form though it has on his size.

"Feeding to give form" put in my mind Nimrod's story of a party of gentlemen farmers, all bachelors of considerable size and weight, as were also the hind quarters of veal and ham, the remains of which were replaced by a plum pudding opposite each guest; when the host, I suppose being afraid his friends would acquire some monstrous form by feeding, put the check cord on Sally, by saying, "No more puddings till I tell you." Now, that such substantial food had from infancy been influential in adding to the size and weight of these gentlemen none will dispute; but the probability is they were the offspring of persons of equal size and weight as the principal cause; the same with the calf and pig; the wheat had weighed 60lbs. the bushel; the plums were not sultanas; and if not thus prevented would, without the feeding, have produced similar beings. A weed of a thorough-bred horse is still thorough-bred; Nimrod, farmers, calf, pig, wheat, grapes, and Sally, had they been less fed, still the same beings as to form.

Density of tissues exists in English thorough-bred horses of large size equally with small high-caste Arabians. It

* A copy of "a Minute of Council by the late Governor-General, Lord William Bentinck, requiring to know whether any reduction could be made in the expenses of the Stud Department," was sent to the officers and veterinary surgeons of the stud in 1833. The British Government would find it here, as it has been there, an expensive affair. It had much better be left to the commercial speculation of private individuals, who can carry it out least expensively; all that is required is due encouragement, as other sources of demand for such horses no longer exist.

occurs in *individuals*, causing the power I have before described. It is more prevalent in wild than tame animals, and the racer, as a tame animal, may in some individuals have less density, that is, are coarse horses. The Honorable Captain Rous's statistics state, of 830, there are 480 not racers. This by no means implies the latter are useless for other purposes, but being unfit for racers are better fitted for other uses. "Weed," as applied to horses, is therefore only a relative term.

Then, again, as to weakness* from breeding in and in, strictly speaking this means breeding among the offspring of *one sire and dam*. The English thorough-bred horse did not originate in this manner. Besides, Turkish and Arabian horses have been since imported; and though "the blood of the Godolphin Arabian is in most stables," this is not breeding in and in, any more than would be the importation of Arabs, as proposed, with the expectation of getting, by the *same procedure*, horses for the army. Arabs are not, in home studs, free from the supposed (for it is supposition only) defects of English thorough-bred horses.

The breeders of army horses I suspect never read Mr. Percivall's 'Lectures on Horses, their Form and Action,' or Cecil's 'Hints on Breeding Horses.' Veterinary surgeons do so, and can give advice to farmers in their respective neighbourhoods not to choose leggy, narrow-chested, narrow-loined stallions, but just the contrary, if they want to breed army horses; and if it be found to be *remunerative*, they will do so, not unless. It appears that £26 5s. is not so at present, therefore more has to be paid; and it is better to encourage our own breeders of horses than to let the breeds so far deteriorate, because there are now no other sources of demand for varieties of horses from which the different kinds of army horses can be selected, and to be ultimately obliged to purchase abroad, which has already begun. According to free trade, some may think this not injurious—I am of different opinion. I have witnessed the heavy† financial

* An act was passed in the 13th of George II, for suppressing races by ponies and other small and *weak* horses, and contains several regulations respecting horse racing. The writer of this pamphlet has only to *prove* that racers of the present day are *weak*, incapable of continuance from want of bottom, and this act can be put in force. Try if they can do the Long and Round Course in the same time as "Childers;" not those stale upon their legs.

† Captain Blacker, of the Madras Cavalry, informed me the horses purchased by him in Persia for the Madras Horse Artillery, far exceeded the amount allowed.

Whatever the cost of horses formerly in New South Wales, I was told

losses incurred at various times by different governments, when obliged to remount cavalry in times of emergency, therefore I cannot do otherwise than recommend ample encouragement of our own breeders of army horses,—and not by experiments with high caste Arabians, which has failed in India to produce Horse Artillery and Dragoon horses, mostly required in both countries, and to produce which the contrary practice must be followed, by breeding from stock not having so much blood as at present. In this opinion I am sure I shall be supported by all cavalry officers and veterinary surgeons who have practical experience on this subject. Captain Wyatt, assistant to Mr. Moorcroft, was sent to Persia and Arabia to purchase stallions for the stud, and he had every advantage of carrying this out. Mr. Moorcroft told me he did not like these horses. We had one of them at Hissar, "Mirza," a very high-caste* Arabian, of compact form, such a horse as the writer wishes to procure. This horse was put to English mares of good size and substance, and good action. When the produce was shown to cavalry officers they admired their beauty, but shook their heads at their spindle shanks, and preferred the produce of the coarse, English, thorough-bred horse "Sampson," because they had most size and substance. In attending committees of cavalry officers who came to pass the colts of the stud into the service, I observed the same was the case with colts got by Arabs in the districts. They must know best which suited them. Besides, breeding from Arabs caused the undersized colts to be very numerous, and this, of necessity, obliged the stud officers to prefer English or half English stallions, the produce having more size and substance, as the accompanying papers will show. So, sir, you will see it is not my opinion only I am here putting forth. Similar statistical accounts could be procured by the Government from India by application. The Board of Superintendence could show the number of produce of *Arabs* or *English* horses admitted into the service, or sold as undersized or

the casualties on board of some ships were very great, which must have added to it; since the gold discovery, this source of supply has not been available, from the advance of prices of horses being very great. I saw colts selected at Hamburg Fair for the French cavalry; a few days afterwards, I heard they were all thrown into the German Ocean when the steamer was in distress.

* Presents of Arabian, Turkish, and Barbary horses, have at various times been made to his late Majesty George IV, and her Majesty, and these were of the highest caste, and presented for this reason only, in other respects, perhaps, useless. If any of these have been used as stallions, Mr. Goodwin could no doubt give the results.

unfit, which would at once set this matter at rest. I am sorry I have torn up my list of stallions up to 1834, but all this can be procured from the same source for the last half century—undeniable evidence. To the use of the Arab as a stallion, with *discretion*, I have no objection. The Government might try the experiment of a home stud, with horses selected by Captain Nolan while in the East, and mares adapted to produce stallions to get horses for cavalry; but confine it to the neighbourhood of the royal forests, and let cavalry officers alone be judges of the result, and not extend it to our present horse-breeding counties without their advice and decision whether or not the stock answers their purpose; for we have too many Galloway nags at present, unfit for anything but irregular cavalry.

The prices paid for colts at the central stud, where the mares were originally the property of the Government, is according to value, 100 rupees, 120 to 140 rupees. The price of the Native Cavalry horse is 400 Furrackabad rupees; Dragoon and Horse Artillery, 450 rupees; or £38 8*s*., and £42 16*s*. Now, if English farmers got these prices for their produce, they would breed plenty of horses for the army; whereas in India it scarcely operates as an encouragement to do so, the habits of the people being different. The Zumandars, or farmers there, who breed horses, have formerly bred them to mount themselves or sons as soldiers. They come before you, not like an English tenant farmer, leading his mare or colt; but mounted, armed, ready to kill and plunder anybody for any one who will pay one rupee per day for such services of himself and horse, the cost of breeding and rearing which, from the cheapness of horse food, is a mere trifle—grain being 70lbs. to 80lbs. for *two shillings: vide* price current. Grass can be had for the labour of cutting it at any time of the year.

It costs the English farmer, even where he has the advantages of common right, at least 3*s*. per week to rear an army colt, which from weaning time to four years old is £23 8*s*., and the army price is only £26 5*s*., therefore he does not breed horses for the army; but as part of the keep of the mare, when her services are not available, must be added, he can only make a profit by selling the colt at three years old. This is only round numbers, without the incidental expenses of breeding being taken into consideration.

ALLOPATHY *v.* HOMŒOPATHY.

A Reply to Mr. Haycock's Papers on Homœopathy. By FINLAY DUN, V.S., Lecturer on Materia Medica and Dietetics at the Edinburgh Veterinary College.

I AM sorry to occupy the pages of the *Veterinarian* with further discussion regarding homœopathy, but I cannot leave unanswered the dubious facts and specious reasoning which Mr. Haycock has last month adduced in support of his system.

After serious plaint regarding the roughness and ridicule with which I have handled his darling subject, Mr. Haycock proceeds to rake up the old and oft-vanquished forces with which homœopathy has for years past been making feeble fight with rational medicine, and to set forth what are styled the "facts" supporting the law of similars. But he still fails to supply the homœopathic limits of that much abused and conveniently indefinite word *similar*. Now, without this definition, all his talk about homœopathy is perfectly vague and useless. We must, as I have already said, learn, at the very outset, what amount of similarity ought, according to orthodox homœopathy, to subsist between the symptoms of the disease and those produced by the remedy. "Some similarity is affirmed as requisite to effect a mild, certain, and permanent cure; 'as much similarity as possible' is authoritatively declared as most favorable to success; but when the similarity becomes too close, when resemblance passes into identity, or, in other words, when the symptoms of the malady and the effects of the medicine become the *same*, then, if we understand Mr. Haycock, all curative efficacy ceases."—*Veterinarian*, June, p. 324.

Mr. Haycock best knows why he permits this ambiguity to rest around a word on which, by his own admission, the whole fabric of homœopathy depends.

My brief leisure prevents me at present following Mr. Haycock through the thirteen pages of his ramblings; but I shall endeavour, very cursorily, to show that the facts adduced, admitting them to be perfectly correct, are quite inadequate to establish the homœopathic doctrine. To begin with sulphur, Mr. Haycock, quoting from Erasmus Wilson, says:—"If its use be prolonged, it *may* be the occasion of an eruption similar to the eruption of itch." And he further

mentions, that the German sulphureous waters frequently produce a rash on the skins of visitors who drink them. The frequent infriction of sulphur will certainly produce irritation and eruption on the delicate human skin; and this, argue the homœopathists, is the explanation of its efficacy in removing itch, and such other cutaneous affections. But if this, as homœopathists assert, be the true source of its curative value, it is but fair to infer that other substances, such as mustard, sand, and all substances capable of producing similar irritation and eruption, should, like sulphur, be possessed of similar efficacy in the cure of skin diseases. This is surely enough to scatter to the winds Mr. Haycock's hypothesis regarding the action of sulphur. Nor is it difficult to substitute a somewhat more rational explanation. Sulphur operates chiefly as a stimulant, and in virtue of this property produces, according as it is used, irritation of the skin, activity of the mucous surfaces, or destruction of the acarus scabiei—the insect whose presence in the skin constitutes the remarkable peculiarity of itch. In this, as in all other cases, those curative actions which are attempted to be explained by homœopathy, can always be more simply and logically explained by rational medicine.

Turning from sulphur, we arrive at a very indefinite description of thick wind, which is oracularly affirmed "to depend upon nervous debility, and upon the existence of a low inflammatory action within the mucous tissue of the larynx, trachea, and bronchi." Arsenic and iodine are considered effectual remedies. Of the latter it is further stated, that its "physiological action is thoroughly homœopathic," because, forsooth, it produces in the human subject "dyspnœa, hoarseness, and fatal results!" Remarkable coincidence, certainly, that iodine, which irritates all the mucous surfaces, should actually, when swallowed, irritate the throat. But why is the use of iodine so specially confined to this affection of the throat; why is this little group of throat symptoms which it occasionally develops, to be seized upon as the key to its exclusive use in thick wind. It is said to produce "hoarseness," "sore throat," and "acute dyspnœa," and must surely, therefore, on homœopathic principles, be most valuable for the cure of catarrh, laryngitis, and bronchitis. Yet it does not appear to be used in these affections, although Hahnemann has distinctly said, that there should be "as much similarity as possible" between the symptoms of the disease and those produced by the remedy. It is held to be useful where there is but a forced and distant similarity; it is useless where the similarity is clear and close. Further,

it must be remarked, that excessive doses of iodine commonly produce, in the lower animals, intestinal irritation—a far more frequent and obvious symptom than irritation about the throat. Now, certainly, if iodine owed its occasional efficacy, in cases of thick wind, to any homœopathic action, it should, according to all analogy, be a most valuable remedy for diarrhœa, colic, and enteritis. Yet no homœopathist, so far as I am aware, employs it in these cases. But wherefore should some of the symptoms produced by a medicine be selected at random as those which lead to therapeutic results, while others are admittedly barren of all such results? By what rule or principle do the initiated select some symptoms as pregnant with valuable curative effects, and reject others as devoid of efficacy? When we find this blind empirical plan pursued, not only with iodine, but with all other medicines, are we not justified in concluding, even without any further proof that any similarity between the effects of the medicine and those of the disease is merely apparent or accidental, a mockery or a deception? In further discoursing of iodine, Mr. Haycock mentions, that it occasionally gives rise to hardening and enlargement of the liver, and this he triumphantly adduces for the purpose of controverting my statement, that iodine, while capable of removing glandular enlargements, "does not cause anything at all analogous." Now, this is very paltry; and, although with blind faith in homœopathy it might serve to account for the value of iodine in a few diseases of the liver, it still fails to explain the beneficial operation of that drug in cutaneous, mammary, and other enlargements.

Aconite is next noticed, at very considerable length, as satisfactorily illustrating the homœopathic doctrines, and Mr. Haycock, in concluding this subject, says:—"It produces symptoms such as we find to accompany acute fever, either idiopathic or inflammatory." This statement, although supported by very respectable testimony, is perfectly valueless as evidence in favour of homœopathy. If it be the possession of these properties—the power to produce fever and inflammation which renders aconite so valuable in inflammatory affections, we should find that turpentine, ammonia, alcohol and ether, with most mechanical irritants, and a host of other substances should be equally, if not more, valuable; for these substances resemble aconite in producing fever, while they much excel it in their power of developing inflammation. It is surely most illogical to select a medicine for the cure of a disease on account of its producing certain effects, and to overlook entirely other medicines, which exhibit in more

prominent degree the very properties for which the first was chosen, and yet homœopathists do this daily. Alas! for the vaunted law of similars, with all its boasted philosophy and infallibility. Sad indeed is its plight, when it has to be established by scraping together the isolated and subordinate effects of remedies, and is striving to trace their similarity to the mere external evidences of disease. But still more absurd and illogical is the constant endeavour to magnify some similarities which are barely perceptible, and to ignore others which are infinitely more clear and obvious. I have already noticed several attempts of this kind in Mr. Haycock's paper, and the intelligent reader will discover many others.

I should have wished, did time permit, to expose the twaddle which Mr. Haycock has penned, regarding oil of turpentine, and worms, as also the fallacy of his deductions, concerning cinchona, quinine, and lemon juice; but this is scarcely necessary, for the same faults invalidate the whole of the facts and arguments adduced. In all the instances mentioned, the symptoms caused by the medicine, and by the disease, manifest scarcely any similarity in their chief and characteristic features. The resemblance, at most only partial, and subsisting between subordinate points, often disappears on close investigation, and is in all cases purely accidental. In no case is it possible to trace any connexion between the symptoms induced by the medicine, and the removal of the similar symptoms induced by the disease. The two actions do not shew any of the usual relations of cause and effect, and are utterly independent of, and unconnected with one another.

Allow me, in conclusion, to notice a very serious paradox attaching to the law of similars. It involves the strange belief, that every medicine is possessed of two opposite actions —opposite, not only in degree but in kind;—that it is capable, in different doses, of producing certain artificial symptoms, and in certain other doses, of removing morbid symptoms similar to those it produces. In the case of every medicine, then, there must accordingly exist what may be termed an ascending and descending series of effects, and between these two, a portion of neutral ground where the two opposite actions antagonise each other, and the medicine is inert, or, at all events, exhibits neither the one effect nor the other. A single illustration will clearly exhibit the absurdity of this position. Sulphur in large doses produces irritation and eruption; and, in small doses, removes irritation and eruption. Aconite causes fever, and cures fever. Iodine developes and reduces glandular enlargements. And hence

arise some important questions which must be settled before homœopathists can practise their system safely and successfully. Required, in the case of all medicines, the exact doses capable of producing the artifical symptoms which are to constitute the key to the practical use of the medicine. Required, also, in the case of all medicines, the dose in which they neither cure any artificial symptoms, nor cure any morbid symptoms. Required, lastly, in the case of all medicines, the precise limits of the curative dose.

Edinburgh Veterinary College;
July 18th, 1854.

REMARKS ON ENTOZOA.

By Robert Dun, V.S., Edinburgh.

Some very curious and interesting facts have lately been discovered by two eminent continental naturalists with regard to the animalcule causing sturdy, or staggers, or turnsick in sheep. That animalcule (the *cœnurus cerebralis)* is one of the cystic group of entozoa. It is a being of very simple form—consisting merely of a cell, with a double wall, filled with colourless fluid. It is attached to the surrounding hardened cerebral substance by a double row of incurved hooks, arranged round pedunculated heads projecting from the surface of the outer wall of the cell.

The peculiar situation of this animal, and the manner in which it has established itself in that situation, have puzzled many observers. It is indeed difficult at first sight to account for the hydatid's presence in the body at all, and much more so for its lodging itself in the brain more frequently than in other organs. But it is well known that, in whatever way they reach their destination, different and peculiar species of entozoa are found infesting different tissues of the body. The observations of Kückenmeister and Benedin afford some clue to the mysterious occurrence of hydatids and other entozoa in the bodies of animals. These gentlemen found that the hydatids of the sheep's brain, when introduced into the alimentary canal of the dog, were developed into tapeworms or *tæniæ*. And again, by a converse process, they discovered that when healthy sheep swallowed the segments of canine tapeworms distended with ova, hydatids were developed in their brains in about a fortnight. From these experiments it would appear that the cœnurus cerebralis and tapeworms are convertible. In fact, we might

manufacture tæniæ or cœnuri at pleasure from each other, either being given as the starting point. The cœnurus is the only animal of the kind which has been experimented upon, but doubtless others of the group would behave in the same manner. In fact, something of the same nature has been observed to occur with the *cystercus rattus*, a hydatid infesting the liver of the rat; for when devoured by the cat, the cystercus becomes a tænia in its intestines. And again, *tænia serratus* has been developed in dogs by feeding them on the *cystercus pisiformis* of rabbits. The difference between the cystercus and cœnurus consists merely in the peduncular organs and heads being reduced to one; and both these entire animals resemble the head and anterior segment of the tapeworm, except in so far as they are destitute of generative organs and a nervous system.

By the discovery of these affinities, the study of the entozoa becomes much simplified. The cystercus and cystic animalculæ appear to be the forms which the entozoa assume when found infesting *tissues*, while the tæniæ are produced from the same germs when lodged in the intestinal *cavity*. According, then, to the situation of the germ, cystics or cystercians, or tapeworms, are developed.

The greatest difficulties, however, are to account for the germs of the animalcules reaching the body, and for their developing themselves in certain situations in preference to others. Now the ova of these animalcules are very minute. The cellular germs may, for example, be scattered about on the grass or fields, where rabbits affected with cystercus pisiformis sport, or where dogs affected with tape-worm wander, and these germs may thus readily reach the outlets of the bodies of sheep or other animals which feed there. From their minuteness (for they are, we believe, as small as pus-corpuscles or blood-globules), they will readily transude through the walls of the blood-vessels, and enter the system. Once there, they will be passed on by the blood till the "elective affinity" of a certain part of a tissue attracts them to itself in the same way as it draws to itself the particles of nourishment which alone can form its substance—in the same way as certain tissues attract the elements of a disease which never affects any but themselves—in the same way as the liver or the mammary gland attracts the cancerous germs which circulate in the blood. This is, however, probably not the only *modus operandi* in the occurrence of entozoa, for their ova may sometimes be deposited mechanically. For example, in the production of intestinal worms, it is not necessary that the ova should be first absorbed and

then excreted on the surface of the bowels; but from the fact of entozoa occurring in the substance of nerves, in the testicle, in muscles, there is almost conclusive evidence that the germs have been deposited by means of the circulatory current.

Much relating to this interesting subject yet remains wholly within the region of conjecture; and it is only by the patient observation of numerous experiments that we may hope to fathom it correctly. Still we think such observations are not so common as they might be. In the pursuits of the veterinary profession, what extensive opportunities of investigating such subjects might be found, if its members would devote themselves more zealously to the study of comparative anatomy! In fact, *this branch of study should be taught at all veterinary schools;* and this is even more necessary to the veterinarian who professes to be acquainted with the diseases of all the lower animals, than to the medical man, who has only the human species as his patients. Many say that the veterinary surgeon, during his short course of study, has at present enough to acquire without this addition of another branch. This is certainly too true; and the only remedy is to lengthen the period of attendance at College. This must, in the end, be done. Two courses of even six months' duration, are not sufficient to enable the student to acquire, creditably, all the subjects he undertakes; and until the colleges exact a better preliminary education, and a longer period of professional study, the veterinary profession cannot hold the position to which it is justly entitled.

DEATH CAUSED BY PHYSICKING.

To the Editor of 'The Veterinarian.'

Sir,—On the 4th of the present month I was requested by E— E—, Esq. to go to his farm, about a mile from this town, to examine the dead carcase of a bay horse, that died early that morning, and of which he was anxious to ascertain the cause. I shall feel obliged if you will give me your opinion whether or not the ball administered was the probable cause of the horse's death.

Yours very truly,

G. M. Marshall.

Veterinary Establishment, Dungannon,
County Tyrone, Ireland.

Post-mortem examination.—The epiglottis and villous lining of the stomach very highly inflamed, as also the mucous membrane lining the large and small intestines, particularly the former, the membrane of which peeled off readily with the fingers, as did also the villous coat of the stomach; the liver was a little broken down in texture; kidneys sound. The respiratory organs normal, with the exception of a slight blush on a portion of the mucous lining of the trachea, and the points of the lobes of the lung a little inflamed; the heart sound, one of the valves contained a large clot of serum.

History of the case.—It appears, from what I was informed, that this horse was attacked some few days before with a slight swelling in one of his forelegs, that a blacksmith was called in, who bled him from the arm, and afterwards gave him some diuretic *drenches*. On Sunday, the 2d ult., (*up to which time he fed well, and was in good spirits,*) he got a ball, containing ʒvj of aloes, B.B., and fourteen drops of croton oil, which ball was given on the point of a stick: in a short time after, the horse began to slaver at the mouth, became very restless and ill, refusing all food, and the bowels not acted on, until he died on Tuesday morning.

From the appearances presented by the epiglottis, stomach, and bowels, particularly the cœcum and colon, and the absence of any symptom (until the administration of the ball on Sunday) of gastric or intestinal irritation, and the general health of the horse being good, with the exception of the slight œdematous swelling of the foreleg, it was my opinion that the ball (which contained aloes *quantum sufficit, without the addition of the croton oil*) was the cause of death.

July 18, 1854.

*** The same is the opinion of the Editor.

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Blaine's Outlines of the Veterinary Art; or Treatise on the Anatomy, Physiology, and Curative Treatment of the Diseases of the Horse, &c. &c. By Edward Mayhew, M.R.C.V.S. London: Longman and Co., 1854. 6th edit. Thick 8vo., pp. 668.

"Blaine's Outlines," familiar to us as the face of an old friend, is, after some considerable length of absence, in a much improved, as well as amended form, though with the same visage, introduced afresh by a gentleman well known to us all, who for some time past has been a great sufferer from ill-health—Mr. Edward Mayhew. The work comes to us with the same title, it is true, but we hardly commence turning over its leaves before we discover changes of character, of form, and of substance, little anticipated by the mere skimmer-over of the title-page, as he views the book while peeping through some shop-window: he will recognise, the instant he sees it, his old acquaintance; but how changed! how completely metamorphosed and refreshed, under the masterly hand of its editor, compared with the worn-out antiquated condition it was left in by its much respected author! Few—very few men would have bestowed upon a work the laborious and patient research—the untiring industry manifest in the revision of the present one; fewer still could have afforded to give the time, or had the talent to give, requisite for the completion of such an undertaking; in the profession, indeed, we should have despaired of finding a man who would have been willing to undertake it, even supposing he possessed ability for the performance of the task; and, therefore, the more is the credit due to Mr. Mayhew, and so much the more likely is the work in his hands to be efficiently renovated. Still, with all this, it is too true, medical science is of that progres-

sive character—some branches of it, indeed, of that rapidly advancing nature, that the pen of the author can hardly keep pace with the medical innovations and improvements of the day. Anatomy is found to undergo, ever and anon, ampler development, to receive additions to its stock of facts; in physiology, either novel theories arestruck out, or alterations are made in those already in existence; while disease of some kind is discovered to have been erroneously delineated, or to have been attributed to wrong causes, or else treated on unstable principles; all which renders the steps of the editor of an anti-dated medical work, fearful and perilous in the extreme, lest he hit not off the latest medical facts and theories, or do not succeed in keeping his pages uniform and level with the most recent improvements of the day; though, take what pains he may to accomplish this, he will, after all, run great risk of finding himself below high-water mark.

The last edition of the "Outlines" coming to us "revised, improved," and enlarged, by Delabere Blaine himself, appeared in 1841, and is numbered "the *fifth* edition;" though little differing from its predecessor, the *fourth*: its venerable and aged author having at the time passed his "three score years and ten," and being less capable of, or inclined to, the labours of authorship. This accounts for the very little which, in reality, was done towards amendment or improvement, and this rendered the book, at the time that it came into the hands of its editor, Mr. Mayhew, so much the more still in need of "revision and correction." We will not say the work had become altogether "a dead letter," but we will take upon ourselves to pronounce the condition it had degenerated into, as, if not quite in itself, next door to, an "Augean stable;" so loud at this time did it "groan for correction."

But words insufficiently express the extent to which our editor has found it necessary to employ the pruning knife, or rather say sickle;—nay, the scythe too had to be used on occasions, as will be seen by such passages as the following:—

STRUCTURE OF THE TEETH.

"Teeth are supposed to have some specialties of structure which distinguish them from simple bone; and, *à priori*, something of this kind might

have been expected. Common bone is never exposed to the action of the external air, nor is it ever subjected to abrasion: on the contrary, when two become opposed to each other, a cartilage tips the end of each, to prevent either friction or concussion. The teeth have one third of their substance not only exposed to the action of the air, but are very often brought into contact with the hardest bodies. It is not to be wondered at, therefore, if some specialty is found in them; neither ought it to be a matter of surprise if the free or exposed portions, as the crown and bodies, and the covered parts, as the root or fangs, should be seldom formed altogether of the same materials: and even where they are in the main similar, yet the proportions of their substances vary, or the modes in which they are distributed are unlike. *Enamel*, *ivory*, and *cement*, enter the composition of the teeth of the horse generally; but, individually, their distribution varies, in the nippers and tushes, the enamel covers the whole of the free portion; in the grinders, instead of covering the surface of the table generally, we see that it forms distinct penetrating layers*. Of these dental components, the *enamel* is by far the hardest and densest: it also contains less animal matter, and, when examined closely, appears fibrous. It will yield fire with steel, like flint, and is hardly to be acted upon by the best tempered files: it never occurs alone, but always as a coating to the ivory of the tooth. The enamel, chemically examined, appears to be a crystalline compound, from gelatine and phosphate of lime, and is secreted from the membrane of the pulp.

"The *ivory* is harder than common bone; it is also fibrous, and is the produce of the pulp of the tooth in the early state, which consolidating, forms

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* By comparative anatomy we are frequently enabled to throw great light on the functions of particular parts of the human body, by which some of the obligation due to the knowledge of the latter are repaid. I have had frequent occasions of pointing to this mutual advantage; perhaps a more felicitous one does not occur than the present, in which erroneous notions on the subject of the preservative use of the enamel have prevailed, and are yet every day insisted on by dentists. Were a preservative quality the principal use of the enamel, the teeth of both man and beast would be seldom free from decay. In both the one and the other, parts of the teeth are entirely deprived of it, and in neither does decay take place at such parts. The depressions on the broad surfaces of the horse molar teeth are, as described above, purposely formed from the first without enamel, and on the surface of the incisors or nippers it early wears away, and yet caries is almost entirely unknown to both. The human incisors also wear from a sharp edge to a flattened surface, entirely uncovered by enamel, but on which surface caries never commences; on the contrary, when these decay, the disease commences at the neck of the tooth where the enamel is thickly encrusted over. The first carious spot usually seen in the human molar teeth is in the deep depressions on their semi-incisive grinding surface, where the enamel can suffer no abrasion: add to which, that decay in a tooth may generally be stopped, if the whole of the diseased portion be filed away. Some tribes among the Indians, remarked for the soundness and goodness of their teeth, always keep them filed to a point; we therefore learn, by collating these facts, that the enamel of the teeth operates little in preserving them from morbid decay; but that its principal use is, by its extreme hardness, so to temper the teeth, as steel tempers iron, that they may resist the impressions of constant mastications, and make the wear of these organs commensurate with that of the body in general.

the substance of each tooth. It is principally different from bone in containing more phosphate of lime; or according to some, fluoric acid in combination with lime. The *cement* is softer than either of the other components, contains more animal matter, and resembles more nearly the common bone of the body. Sir Everard Home attributes its produce to an ossification of the secreting membrane of the enamel; Cuvier considers it as a specific secretion. It may perhaps be better explained after this manner: the pulp from whence the ivory is secreted is surrounded by a membranaceous capsule, and presents two layers; the central layer secretes the enamel, while the outer furnishes the cement, and surrounds the terticeous striæ of enamel, and unites the other substances into one firm mass."

What follows is the Editor's account of

THE TEETH.

"The substances which enter into the formation of tooth are bone, enamel, and crusta petrosa. These three are perfect when the tooth enters the mouth, and lay one under the other. The crusta petrosa is the outer covering, of a dark colour and tolerable thickness. It was formerly mistaken for tartar, covering and dirtying the teeth; but that it is not tartar is shown by its always covering young teeth, and being absent from the front of old horses when the attrition consequent upon gathering the food has worn it off; therefore whiteness in teeth is no sign of youth in the horse. The crusta petrosa is dark, tough, and highly organised substance, covering the whole of the fang, and following the enamel wherever it bends or dips into the windings upon the table of the tooth.

"The enamel lies next under the crusta petrosa, and consists of a thin layer of very brittle unorganised, and crystalline substance; it principally coats the crown of the tooth, being very thin up the fang, which it only partially envelops.

"The main bulk of the tooth consists of bone, which is tough, and of a yellowish colour, not so dark as the crusta petrosa, but much darker than the enamel, which last is perfectly white. It has an opening at the point, or bottom of the fang, which leads to a cavity that contains the vessels and nerves that nurture the substance of the tooth, as well as endow it with feeling.

"Now, when we properly consider the services to which the horse's teeth are put, viz., to nipping off and grinding up the food, the use of these three substances is perceived. The enamel, which is as brittle as glass, yet being firmly enclosed between two tough substances, is preserved from chipping or breaking; but being protected acts with the efficiency of steel. It is usually the least worn of the three materials that enter into the composition of the tooth, projecting comparatively far beyond them."

Let us take an example of amplification, from the descriptions of the bones:

"The *navicular, nut, or shuttle bone*, is situated at the posterior part of the coffin, to which it is articulated, as just noticed: its upper surface forms a continuation of the articulating surface of the coffin, by which these bones jointly receive the broad extremity of the little pastern. The navicular bone is, as it were, laid upon the flexor tendon, which passes up over its posterior edge: all which parts will be more particularly considered when we describe the feet."

Thus far Blaine; next comes his editor's account:—

"The *nut*, the *shuttle*, the *quillor*, or the *vanicular bone*, is situated behind

the coffin bone, between the two wings. Its upper surface is continuous with the articulatory surface of the coffin bone. Its lower surface rests on the perforans flexor tendon: which tendon also rests upon the insensible frog; which again has the sensible frog and the tough and flexible horn of the external frog on its lower side. Its motion is downward; and in this direction it would appear to be amply protected. By its upper surface it helps to sustain the vast weight of the animal; yet, between it and the coronet bone there is only synovia to break the force. Nor does it require anything more; however much to the contrary it may appear to the inexperienced reader; for to the force from above it is yielding. The upper surface of the bone is never injured; but the lower surface driven further downward whenever the coronet bone travels backward,—the inferior surface though, as it would seem, amply protected by the synovial capsule; by the perforans tendon; by the sensible frog; by the insensible frog; and by the tough horny frog,—is the situation of one of the most terrible and fatal scourges that horse-flesh is heir to, viz., navicular disease; because, in this direction, the bone is propelled against and bruised by any inequality of the ground."

Blaine follows up his "Osteology" with what he calls "Syndesmology," or a description of the connecting parts or Appendages of Bones,' and then proceeds to 'Myology,' or account of the muscle or flesh of the body; giving, first, a general account of muscle and of tendon, and then proceeding to a description of individual or particular muscles, confining his observations, under this head, to some remarks on the existing anatomical nomenclators; after which he quits the subject, to resume it, however, (after the consideration of the headings of Bursalogy, Angiology, Neurology, Adenology, and the Reproductive System), *longo intervallo*, at page 251, under the title of "The Structural and Physiological Display of the Extremities," commencing with the "Anterior Extremity," under which he includes the "Muscles of the Shoulder," "Muscles of the Humerus, or Arm," "Muscles of the Fore-arm," "Muscles of the Cannon," and "Muscles of the Pastern and Foot," followed by "Ligamentous Connections of the Anterior Extremity," and a similar cursory account of the "Anatomy and Physiology of the Posterior Extremity."

Mahew, on the other hand, has succeeded his description of the bones, by one of the "Appendages to Bone," viz., of *cartilages*, *periosteum*, *medulla*, *ligaments*, and *synovia;* and has then, as is the more common *route* on such occasions, proceeded at once to a description of the muscles of the horse, from a

general account of which he proceeds to detail particular orders of these organs, beginning with those of the "Anterior Extremity," and of the "Neck and Breast," without descending to any description of the "several minute muscles around the cervical vertebræ, which serve to move one bone upon another, and also answer the purpose of ligaments, holding the bones together, which are only sought by the matured student," and "may be considered as altogether unfitted for those into whose hands the 'Outlines' are intended to pass." These are followed by "the Posterior Extremity," and the "Muscles of the Anus," and of "the Tail;" after which our editor takes into consideration what the author had treated of previously, under the head of Bursalogy, viz., "the Bursæ Mucosæ." In this transposition or alteration of order of arrangement, the editor, in pursuing the more beaten tract of anatomical lecturers and writers, has, we conceive, made an important amendment in the work, and one that will be found to harmonize more with that course of study which the student is, in almost all schools, taught to pursue.

The anatomical and physiological department of the new 'Outlines,' are concluded with an account of "The Anatomy and Physiology of the Foot."

This description, which may be said, like those preceding it, to consist, for the most part, in condensed or concentrated detail, is occupied, as it proceeds, in continual references to plate this and figure that, putting one much in mind of a man who is delivering a *vivâ voce* discourse with the foot (or bone, or whatever be his subject) in his hand; a mode of book composition, more didactic and more impressive on the mind of the reader who will take the trouble continually to notice such references, and turn over leaf to the plate; though we should be apprehensive that all readers will not be at the pains to conduct their perusal on this working and profitable plan. The plates, executed from drawings of high character, by that renowned artist, Bagg, are bold in outline, and distinct, and so well filled in that they appear to us to be correct representations, and as such,

to deserve to have been placed in a separate book, or sort of atlas, apart. This might, in lying open before the reader, have saved a good deal of turning over, and so far trouble, on his part. However, we fancy we can guess at the objection to such a plan; and therefore we will say no more about it.

For this month, we will conclude with an extract on—

THE ANATOMY AND PHYSIOLOGY OF THE FOOT.

"The foot of the horse presents a mechanism admirably adapted to the habits of the animal; for in the horse that complexity of structure, exhibited in the numerous phalanges of other quadrupeds, is found united in one. From the various circumstances to which we subject this creature, such as keeping him in stables, riding him upon hard roads, and the attachment of iron shoes, the feet become peculiarly susceptible of disease. At birth, the horny parts of the feet are found less evolved than most other of the external organs; were they more perfected, their hard surfaces might injure the mother; at this early period the pasterns are long and upright, and instead of the extremities ending, as in the adult, in a broad extended base, they are pointed in front, and present only the rudiments of a frog. The bones immediately belonging to the foot are two, the coffin and the navicular; the little pastern, or coronary bone, which articulates with both, is also partly hidden within the hoof. The *coffin bone* corresponds in shape to the anterior part of the hoof; in front it presents an eminence, to which the extensor pedis tendon is attached; its sides stretched back into two lateral processes or wings, to the upper surface of which are fixed the lateral cartilages; its superior surface presents two articular cavities, and its lower is vaulted, and to it is attached the perforans tendon; while its exterior is covered by the sensitive laminæ. It will be seen to be of a loose texture, with small bony ridges extending from above downwards, favouring the attachment of the sensitive laminæ. The *navicular bone*, which in shape is supposed to resemble a boat or shuttle, embeds itself between the wings of the coffin bone, to which it is attached.

"The *small pastern bone*, articulates with the coffin and with the navicular bones, to both of which it is united by the capsular and other ligaments. The *lateral cartilages* are externally convex, and internally slightly concave, their upper surface stretching superiorly beyond the confines of the hoof. The *laminæ* are vascular and sensitive productions; possessed of that elasticity which belong to all living matter; situated round the surface of the coffin bone, and between every two lies their secretion in the shape of a horny laminæ, which constitutes part of the inner wall of the hoof. The *extensor pedis tendon* passes in front of the os corona into the anterior eminence of the coffin, and the *flexor perforans tendon* affixes itself to the posterior of the bony sole. The *elastic frog* is situated next to this, on which, and on the flexor tendon, the navicular bone rests. The *sensitive frog* and *sole* lie under the coffin bone and elastic frog, the horny sole and frog covering them inferiorly; while the *hoof* generally covers the whole of the sensitive parts of the foot.

"The *hoof* is a horny development, secreted from a continuation, although altered state of the cutis, exactly as the human nail is formed from that which is termed the *quick:* it is distinctly composed of fibres parallel with each other, and held together by a glutinous horny exudation which is removed, and the fibres separated by maceration. Inordinate heat and dryness will partially do the same in the living hoof, as we know by what

are called sanderacks. The wall of the hoof is divided into two layers, an external and an internal. Taking up a black hoof which has been freed from all its adherent parts, it will be found to be white within; and this white part will likewise be found to be much less hard than, and about a quarter the thickness of, the coloured portion. The hard black external layer of horn is secreted by the coronet; the internal white and soft layer is secreted by the sensitive laminæ, and it is thrown into projections which exactly fitted into the folds of the secreting surface. The wall is also divided into toe, heel, and quarters. The *quarters* are the lateral parts of the walls; the more forward and thickest portion of horn is called the toe; the more backward and thinnest, the heels. In the usual formation of feet, the inner side of the hoof is observed to be weaker than the outer; and as the inner side receives most weight, this proves the care taken to secure elasticity in the horse's movements. The horn yields to pressure, and the thinnest, of course, yields most. The density of the hoof materially decreases as it approaches the heels, evidently to favour the descent of the elastic frog, which likewise favours elasticity of motion. The superior marginal part of the hoof is softer and thinner than the rest; and if our eyes be directed inward, we shall perceive an indentation called the *conorary ring*, within which the *conorary ligament* once reposed; the thin and soft part is horn just secreted, and in a single layer; whereas where the horn is thicker, the conorary ligament is more bulky, for the horn is secreted in several layers.

"To finish our description of the hoof, we must turn our attention posteriorly; where we shall find the laminæ inflicting themselves abruptly inwards and downwards, forming what are termed the bars; which are nothing more than continuations of the horn of the heels, stimulated and thickened by pressure. So also the frog is little else than an adaptation of the coronet turned downward, and forced to bear a certain amount of weight.

"The *horny sole* is not so brittle as the crust; it is thicker at the circumference, where it unites with the outer wall of the hoof, than it is towards its centre. Its concavity enables the foot to retain its situation upon the ground; while it forms an arch which yields by its elasticity, thus affording an admirable spring. The *horny frog* is the triangular portion that fills up the natural excavation of the sole. This horny frog swells out, but not so much in general cases as to extend beyond the level of the outer surface of the crust; it however is sufficiently prominent in every healthy foot as to receive secondary pressure. An inferior view of the foot will show that the frog presents a distinct mark of separation between it and the other part, which is called its commissure; wherefore connexion is principally kept up by an internal prolongation of the secretive substance of the coronet. The horny frog is intimately connected to the sensitive frog, of which last it is indeed the secretion. The frog is divided, or indented with a deep fissure, which is called its cleft, within which are numerous sebaceous glands. It is these glands, when diseased, which pour forth a stinking fluid which rots the horn, and is known by the name of thrush. The sensitive part of the secretive frog is covered by the elastic frog.

"Horn is entirely unorganized, and when once divided can never again unite like flesh. It does not bleed when cut. It has no feeling when a knife is drawn across it. It has none of the properties of living substance, and consequently cannot be expected to possess the reparative function that appertains to living matter. Horn, although a secretion, and as such pretty much the same, is not all of the like hardness. The horny frog is the least hard, and the most pliable; the horny sole ranks the next in these qualities. Then come the horny heels; afterwards the quarters and bars; and lastly, as the most hard, the toe. The inner crust is throughout softer than the

outer, but both crusts are originally secreted in a fluid state, and subsequently become of the requisite consistency.

"If we take an extended view of the matter, and call in the aid of comparative anatomy, we shall be led to consider the uses of the frog as of a mixed nature. Eminently simple in form and structure, it combines even more than the qualities possessed by the tendo-cartilaginous balls at the posterior part of the feet of the digitated tribes, as dogs, cats, &c. It is more dense in structure, to resist the weight imposed on it; yet more truly elastic, to enable it to preserve its own integrity under the increased pressure of so large an animal, and to transfer the shock of motion more uniformly over the limb. It is peculiar also in being united at its apex; but it is wisely disunited by its *cleft* at its posterior portion, where it can best act on the yielding walls of the hoof. This union, or separation indeed, arises from the frog being formed of a continuation of the coronet. The frog claims, likewise, importance as a natural wedge, to prevent slipping and sliding on smooth surfaces. It is reasonable also to suppose, that it forms a valuable antagonist to the downward and backward direction of the internal parts of the foot; and in this way it may offer a point of solid support to the flexor tendon, and an important protection to the navicular bone; it also most unquestionably acts very favorably in promoting the expansion of the hoof.

"*The bars.*—We have already fully explained that the crust of the hoof does not terminate at the heels, as a superficial observation might lead one to conclude; but that having gained the heels, it turns inwards and forwards, decreasing in extent, and laying itself on each side of the frog."

THE INTERIOR OF THE FOOT.

"The part that presents itself when the hoof is removed, is the *sensitive* or *fleshy sole*, which is a vascular expansion covering a considerable portion of the under surface of the coffin bone, and extending beyond its posterior part, but leaving a triangular space for the vascular expansion of the sensitive frog. As the sensitive sole passes behind the coffin bone it becomes thicker, and attaches itself to the inferior cartilages. The sensitive sole upon its upper surface is of a ligamentous nature, but the underneath is vascular; and from it is secreted the horny sole. The vascularity of this part renders it very susceptible of inflammation. The *sensitive frog* presents a very curious structure of ligamentous and tendinous expansions above; but covered underneath by a horny coating, corresponding in shape to the sensitive frog, and secreted from it. It lies in an interval within the sensitive sole, attached by its point to the inferior surface of the coffin bone, with its heels expanding posteriorly; being a continuation of the secretive coronet, and attached to the cartilaginous substance, united with cellular and fluid matter. The *lateral critilages*, one to each side, are fixed into a groove, upon the upper surface of each wing of the coffin bone. Independent of their bony attachment, they are also retained in their situation by means of ligamentous fibres, and by lateral connexions. They are externally convex, internally they are concave; highest in the centre, but thinner and smaller towards the extremities: their inferior portions pass under the wings of the coffin bone, and unite with the semi-cartilaginous substance of the elastic frog. The lateral cartilages are partly within and partly without the hoof; are covered at their lower portion by the coronary ligament, which, by being extended over them, prevents their too great dilatation. To the lower part of their external surface the laminæ gain an attachment; and within their internal portion is lodged the substance forming the upper and posterior part of the elastic frog. The *uses* of these cartilages, as before observed, are con-

siderable, and divested of them the coffin bone appears but small, compared to the hoof that encloses it; but increased by the attachment of the cartilages, the whole is made more proportionate, equally useful for support as though they were altogether bony, yet yielding and elastic. The cartilages themselves appear particularly intended to operate in expanding the upper horny portions of the hoof; and they also assist in the preservation of the cavity of the coffin joint.

"*The sensitive laminæ.*—In describing the hoof, I observed that its internal surface was lined with numerous horny lamellæ. The subjects of our present inquiry are, on the contrary, highly sensitive and vascular. The whole circumference of the coffin bone is covered with these sensitive leaves, each of which is received between and firmly attached to two of the horny laminæ of the hoof. It is, therefore, evident that the surface of attachment between the hoof and the internal parts must be in an extraordinary degree strong. A partial observer of the foot of the horse would be led to suppose that the sole endured the weight of the animal; which opinion would be erroneous: on the contrary, we find the sensitive sole can bear little *continued* pressure, though its elasticity and form enable it to bear a *momentary* force."

VETERINARY JURISPRUDENCE.

Exchequer Nisi Prius.—Dublin, July 8.

Wm. Foote *v.* John Barker.

This was an action instituted by the plaintiff to recover from the defendant the value of a horse and a mare, and the keep of both. In the month of February the case was first brought to trial, on which occasion the plaintiff sought to recover the sum of £120, and £20 for the keep of the horses. The whole amount claimed by the plaintiff for the horses was £130. He had already received £10, so that the action was for £120 only. The trial was proceeded with. A juror became ill, and as he would not be able to attend so that the investigation might be proceeded with, it was discontinued, and the jury were discharged. A fresh plaint and summons were served, and the case came again on for trial yesterday before the Chief Baron and a special jury. The sum claimed was the same as that for which the plaintiff went in the first action, and the amount charged for the keep of the horses from November to the commencement of the new action was £60.

Mr. F. M'Donough, Q.C., with whom were Mr. Battersby, Q.C., and Mr. Tuthill, stated the case for the plaintiff.

The main facts of the case, which will appear in evidence, are these:—Mr. Foote was the owner of a valuable brown

mare and chesnut horse. Mr. Barker required them, and negotiated with Mr. Foote to buy them, and the question between the parties depended upon the nature of the agreement which had been entered into by them. The plaintiff alleged that he was to receive £130 for the horses, subject to the opinion of Mr. George Watts, the veterinary surgeon. The defendant denied that he had agreed to have the opinion of Mr. Watts—that the horses were not sound, and that the plaintiff gave a general warrantry that they were sound. The issues for the consideration of the jury were—was there an agreement—what were the terms of the sale—were the horses sold subject to the opinion of Mr. Watts—did the plaintiff give a general warrantry—did he know that they were unsound, and give a false warrantry, and what was the amount of the keep?

The plaintiff was examined—He deposed to the negotiation between him and the defendant, the payment of £130 for the horses, and the opinion of Mr. Watts; asked the defendant when he wished to have the horses examined; he replied, "the sooner the better;" well, then, said he (plaintiff), let us go down; they accordingly went to Mr. Watts; he said to Mr. Barker that it was necessary to have an understanding as to the price of one of the horses, if Mr. Watts rejected the other; Mr. Barker said he supposed he should give me £90 for the horse; that will be £90 and £40, said he (plaintiff), and I suppose it must be so; Mr. Barker said he did not want the mare but the horse; if that be so, said he (plaintiff), I must have £100 for the horse; they are sound, said Mr. Barker; there is nothing the matter with them; I hope so, said he (plaintiff), I do not anticipate that there is; did not see Mr. Watts then (Tuesday, the 8th November, 1853), as he was in England, but he was told he would be back on Thursday; this is very unfortunate, said he (plaintiff), but nothing can now be done but that the horses shall return to my stable; Mr. Barker made no objection; he said that he knew with whom he was dealing; that he would give him (plaintiff) £10, and he said he supposed that if he met with a purchaser he (plaintiff) would show the horses to him; oh, yes, said he (plaintiff), I will show the horses to any one who comes, but not without your orders; got the £10 from Mr. Barker; gave him the pedigree of the horses as well as he could; on Thursday, the 10th, met Mr. Barker in the Castle Riding School; he asked him (plaintiff) if he had the horse at Ballinasloe; told him he had, and that he had him foolishly walked there instead of sending him by the train; that he arrived at Ballinasole in a state unfit for view, in consequence

of which he did not sell him, but that if he had sent him by the train he would have received a great deal more for him than the amount for which he now offered to give him; he was not examined by any veterinary surgeon in Ballinasloe; Mr. Barker still asked him if he would have Mr. Watts to examine the horse; he (plaintiff) replied that he certainly would, and that he had been waiting at Mr. Barker's for him; they went up to Mr. Watts' with the horses; Mr. Watts examined them—first the chesnut horse, afterwards the mare; Mr. Watts said, when he was about getting their shoes off, "they have no corns;" I believe not he (plaintiff) replied; Mr. Watts asked the smith "had the horses any corns?" The shoes were taken off the horses; Mr. Watts pointed out their feet to Mr. Barker, and pronounced both the horses sound in every respect; they had been trotted up and down the street to try if they were lame; the horse was galloped, the mare was not; the examination occupied three quarters of an hour; when Mr. Watts was about having the shoes put on the horse he turned to him (plaintiff) and said that Mr. Barker was not quite satisfied, and wished to have the horse trotted out again; certainly, do so, said he (plaintiff); the horse was again trotted out, and Mr. Watts again pronounced him to be perfectly sound; Mr. Barker paid Mr. Watts the usual fee for the examination of the two animals; they left Mr. Watts, and while walking along, Mr. Barker said he was not satisfied as to one of the fore legs of the horse; he said he did not like his movement, and he thought he would take him to Mr. Ferguson; "I think," said he (plaintiff), in reply, "you will only throw away your money;" will you not come with me to Mr. Ferguson? said Mr. Barker; certainly not, said he (plaintiff) I have had the opinion of Mr. Watts; he has pronounced the horse to be sound, and I have done with him: Mr. Barker left him (plaintiff), promising to see him in half-an-hour; went to the terminus of the Great Midland Railway, and while absent the horses were sent to his premises, and on his return he directed that they should be brought to Farrell's livery stables in Brunswick-street; had the horse from the summer of 1851, till November, 1853; could give a tolerable guess as to the soundness of a horse, and believed that the horse and mare, when he also them, were perfectly sound; had no reason to suppose otherwise.

Cross-examined by *Mr. Sidney*—Knew the dam of the horse very well; she was once his property; she was fired while he had her; she was fired all round both hocks for supposed curbs; believed she had not the affection called curbs; regretted having allowed her to be

fired; thought that it was a natural formation, and not a curb; firing a horse did not improve its appearance, but did not interfere with its action; in England horses were fired as a preventive from curbs; had not much knowledge of horses; did not deal in them; he had not bought more than two horses in the course of eleven or twelve years, and had one horse for fifteen years; the chesnut horse when he got him was four years old; gave £35 for him; when he bought him he was a colt, unbroken; had him in Kildare about a year and four months; bought him to break and sell him again; on one occasion a gentleman offered him about £150 for the two; he saw them in the field; Mr. Tuthill, of Dawson-street, made an offer to him for the horse; asked him would he take £100 for the horse; some French gentlemen saw the horse at Dycer's; they rode and like him very much; they did not buy him; they said they would buy him but that he was asking too much for him; thought it was upwards of fifty Irish miles from his place in Kildare to Ballinasloe; the horse arrived about six o'clock in the evening; it was dark; next morning a gentleman came to look at the horse; the horse appeared to be very stiff in the shoulder; he (the dealer) rode him down the road, and he said that he was very lazy and done up; he was not lazy, but the poor fellow was done up; he had never travelled 10 miles before on one day with a man on his back; on the next day another person got on the horse and rode him across the fair green; on the horse fair day two or three persons saw the horse; one of the dealers said he was a strong-hocked horse; did not know what he meant by "strong," but he was a coarse-hocked horse; he was not contracted in the hoofs; he was not at all narrow-heeled; he had fine large well-shaped feet; the dealer did not ask him—had the horse corns? he objected to his mouth; he said he pulled too hard; he looked him all over, and made no objection to his formation.

Arthur Dawson examined—Was an extensive horse dealer; bought and sold in the year about two hundred horses; if a buyer and seller agreed to take the opinion of a veterinary surgeon as to the soundness of a horse, the responsibility of the seller was at an end; knew what spavin and ringbone were; if a horse with ringbone got work during six months he would become lame; if the shoes were taken off, and the foot was cleaned, a corn would be seen.

Cross-examined by *Mr. O'Hagan, Q. C.*—His practice was to leave the buyer to take the opinion of any veterinary surgeon whom he pleased, and then his responsibility was

over; never gave a warranty of a horse with the opinion of a veterinary surgeon; this was what he avoided; was not a veterinary surgeon.

To *Mr. Battersby, Q. C.*—If a buyer agreed to take the opinion of Mr. Watts he was bound by it.

To the *Chief Baron*—If he named Mr. Watts or Mr. Farrell, and he pronounced the horse to be sound, the buyer paid the price, and his (witness's) responsibility was at an end. The buyer might get the opinion of any other veterinary surgeon, and if he said the horse was unsound, he (witness) should take him back.

Chief Baron—I do not think you understand my question: I mean, if you named a particular veterinary surgeon, and the buyer got another opinion which declared the horse unsound, would you be bound by that opinion?

Witness—No, if a particular person was agreed on, and the opinion of another obtained.

John Revell examined—Was the plaintiff's brother-in-law; recollected an occasion when he was in Dublin, in the plaintiff's house; two persons came in, one older than the other; Mr. Barker was one of them, Mr. Levingstone the other; the plaintiff asked if they had come in reference to the horses? they said they had: they asked the price of the horses; he replied, £140; they offered him £120; he said he would divide the sum, but would not take the £120; they offered £125; he refused; they went into the hall, and came back; they again offered £125; he again refused, saying that he would not take less than £130, and would sell the horses subject to the opinion of Mr. Watts.

Cross-examined by *Mr. Sidney*—Did not hear the entire conversation.

Henry Williams examined by *Mr. Tuthill*—Was a cousin of the plaintiff's, and the manager of his establishment; remembered the 10th and 11th of November; recollected the occasion when Mr. Barker and another person came to the establishment; witness detailed a conversation which took place between him and Mr. Barker on that occasion, in which he (witness) said that he was aware of the contract between him and Mr. Foote; that he knew that £10 had been paid, and when he (Mr. Barker) gave him £120 more, he would give him a receipt for the amount; Mr. Barker did not deny the nature of the agreement, but he said that Mr. Foote was a gentleman, and, as he was not satisfied with the matter, he would not bind him to it; he (witness) replied that Mr. Foote was a man of business, and would require the fulfilment of any contract which had been entered into with him; Mr.

Barker said that he was obliged to go to Wicklow, and promised to return, but he never returned to the house; mentioned to Barker that the horses were at livery at Farrell's, in Brunswick-street, upon his (Barker's) responsibility; he (Barker) admitted that he knew this, but he added that Mr. Foote was a gentleman, and when he (Barker) saw him he had no doubt that he would settle the transaction with him.

Mrs. Foote examined—She recollected the day when her husband (the plaintiff), Mr. Williams, and Mr. Revell were in the counting-house; recollected Mr. Barker and Mr. Levingstone coming into the counting-house and speaking about the chesnut horse; thought that Mr. Foote said he would take £150 or £140 for the horse and mare; they went away, and came back again; one of them asked Mr. Foote if the horses were sound or right; oh, yes, said he, but I sell them subject to Mr. Watts's opinion; they wished to have the opinion of Mr. Ferguson; Mr. Foote objected to it, and said he always sold his horses subject to the opinion of Mr. Watts, and seemed to be surprised that they would object to his opinion, as he considered him to be the best opinion in Dublin on such a subject; they then went away, objecting to the price of the horses.

Cross examined by *Mr. O'Hagan, Q. C.*—The horse was not a favorite horse of hers; was interested, however, in the conversation; was not examined on the last trial.

Walter Dunne examined—Was Mr. Foote's groom; took the horse to the fair of Ballinasloe; from the severity of the road and weather, and the length of the journey, the horse appeared to have been a little "beaten;" he was not examined by any veterinary surgeon; he knew very well he was not, because he was in the stable, and he (witness) had the key in his pocket, and, more than this, the horse would not let any one come near him (laughter); returned into Dublin on a Sunday, and when he got into the Park the horse ran away with him (laughter); he was not a bit stiff then; when he found where he was he wasn't a bit stiff, but faith he was inclined to leave him (witness) down in the Park (laughter); rode the horse, and never found him lame; never rode the mare, and was not a veterinary surgeon to say whether she was sound or unsound; that question lay with Mr. Watts.

Mr. Sidney—You are Mr. Foote's "boy?"

Witness—I am an "ould boy" (laughter).

Will you swear that no veterinary surgeon examined the horse while in the stable?

I will swear twenty oaths that he did not, and could not.

Plaintiff (to a juror)—Mr. Barker's clerk paid him ten

pounds for him (Mr. Barker) before any examination of the horse.

A witness named *Walsh* gave evidence as to the soundness of the horse; remembered his having been lame for a few days, and his having recovered.

The smith in the employment of Mr. Watts, by whom the feet of the horses were examined, deposed that they had not corns.

Peter Farrell examined—Was proprietor of the livery stables in Brunswick street; he deposed that the horses were in his stables since the month of November; the keep of them was sixty pounds: the opinion of a veterinary surgeon concluded the transaction.

Cross-examined—A warranty given by a seller altered the matter altogether; would not undertake to say whether the horse was sound or unsound.

At the close of the evidence of the witnesses examined for the plaintiff,

Mr. Lynch, Q. C., read the examination of Mr. George Watts, taken by Mr. R. Hitchcock, pursuant to an order of the court, Mr. Watts being unable from illness to attend court to give evidence personally. From the written depositions it appeared that Mr. Watts had been engaged in his father's business in the year 1825; that he joined the Scots Greys as veterinary surgeon in 1826, and having remained in that regiment nearly seven years, returned to Aungier Street, and had been there ever since; first saw the chesnut horse of Mr. Foote about 1852; would not speak positively; thought it was 1851; his book could tell exactly; the horse was then perfectly sound; next saw the horse about Christmas twelvemonth; he came to his establishment once a month to be shod; first saw the brown mare after last Donnybrook fair; examined her for Mr. Foote; she was perfectly sound; examined the horse and mare on Thursday, the 10th of November, 1853, in the presence of plaintiff and defendant; both were perfectly sound; when horses on a sale were passed as sound, the purchaser paid for the opinion of the veterinary, and the seller if he was unsound; saw Mr. Barker about half an hour afterwards; and he told him that Mr. Ferguson had rejected the horse and mare as unsound; told Mr. Barker that if Mr. Ferguson was aware that he had pronounced them to be sound, he, as a matter of course, would pronounce them to be unsound; he also told him that Mr. Ferguson, as he was credibly informed, had stated that he would reject any horse that had his brand on his shoe; Mr. Barker asked him to give a certificate of the soundness

of the horse, and he refused to do so: told him that he would make an entry of the examination in his book, to which he could refer at any time, but that it was not customary to write certificates of horses as being sound unless they were going abroad, or were going out of the country; Mr. Barker seemed to entertain some doubt as to the chesnut horse, and for the purpose of pleasing him, more than for any other reason, he had him out again; on that day the horse was not lame; examined them as carefully as if he had never seen them before; the chesnut horse had not a contracted foot: Mr. Foote drew his attention to some enlargements on the pastern joints of the mare; told him that it was a natural enlargement of the part, and would not be of any consequence; the enlargement called ringbone is a material defect; it would cause lameness; the other enlargement would not, and did not in this instance; the mare had no curb on either hock: the horse had no spavin, corn, curb, ringbone, or contracted hoof; saw the horse and mare about five or six weeks ago; both were then perfectly sound and getting regular exercise; if a veterinary surgeon, who has been named to give an opinion, give an opinion, it was conclusive.

In his cross-examination Mr. Watts said that he would give a certificate to a stranger who was bringing a horse to a distance, if he thought the transaction was a *bona fide* one; did not give certificates to parties in Dublin whom he did not know, lest they might make an improper use of them, and sell a horse of the same colour as that in reference to which he had given a certificate; had no reason to suppose that Mr. Barker was not a respectable person, but knew nothing whatever of him. Do you believe that Mr. Ferguson would declare horses unsound merely because you said they were sound? I do, and *vice versâ*. If a horse is warranted sound by the seller, and also sold subject to the opinion of the veterinary surgeon, does not such a contract operate as a guarantee to the purchaser that such horse is sound, and that such guarantee is confirmed by the opinion of the veterinary surgeon if passed sound? If a horse is sold and warrantcd sound, as well as subject to the opinion of a veterinary surgeon, such warranty will hold good irrespective of the opinion of the veterinary surgeon.

The case for the plaintiff having closed on the previous evening,

Mr. O'Hagan, Q. C., addressed the court and jury in stating the case for the defendant. He stated that his client was a stranger to Mr. Foote, and had never seen the horses which he (Mr. Foote) had for sale, until Mr. Levingstone mentioned

to him that Mr. Foote had them for sale. Mr. Levingstone was a dealer in horses, had seen the horses, and had undertaken to sell them for Mr. Foote at five per cent. commission; so that Levingstone was Mr. Foote's agent, and it would be proved that Mr. Foote guaranteed that the mare and horse were sound. The question for the jury to consider was, were the horses sound when Mr. Foote pronounced them to be so. If they were not, the plaintiff would be entitled to the verdict of the jury. A fact in the case, which came out in the evidence on the previous day, was material for them to consider, namely, that the plaintiff paid a sum of £10 to the defendant previously to Mr. Watts having pronounced his opinion in reference to the horses. The learned counsel then stated that a contract should be a mutual agreement between parties; and as to a warranty, it was not necessary that it should be in writing. A verbal warranty was sufficient. It was not requisite that a seller should say, "I warrant this sound." A representation that a thing was sound, and the reliance of the buyer that it was sound, was sufficient, and would be as binding as if it were written upon the dearest parchment and with the blackest ink. Counsel also called attention to the last answer of Mr. Watts in his depositions, namely, that a personal warranty as to the soundness of the horse would hold good irrespective of the opinion of a veterinary surgeon, from which he argued that his client was entitled to a verdict, the plaintiff having warranted unsound horses to be sound.

The *Defendant* was then examined.—In November, 1853, Mr. Levingstone came to him and said he had seen a very handsome chestnut horse, and he (defendant) might make something of him if he bought him; went to see the horse next day with Levingstone; saw it in the riding school in the Castle-yard; also saw the mare; saw Mr. Foote in his office; addressed him and said, "Mr. Foote, you have a chestnut horse for sale?" he said "yes;" what is the price said he (witness); 100 guineas he said in reply; is he sound? yes; is the brown mare for sale? yes; what is the price? he said 150 guineas for both; asked him would he take £120 for them; he said no, but would take 130 guineas; witness said he would not give that sum; afterwards saw Mr. Foote at the riding-school; Levingstone was also there; he (defendant) said to Mr. Foote, Levingstone having observed that he supposed Mr. Foote had come to give him the horses—"£120 Mr. Foote for the horses;" no, said he, not less than £130; Levingstone said "you had better take the horses; very well, said he (defendant), I will take them at £130; Mr. Foote

said "If you take the opinion of a veterinary surgeon, I will recommend you Mr. Watts; he (defendant) said in reply, I don't like Mr. Watts' opinion—I prefer Mr. Ferguson's; Mr. Foote said he would rather have Mr. Watts' opinion, because he was in the habit of shoeing the horses, and knew them well; Levingstone said "it does not matter whose opinion you get, Mr. Foote has warranted the horses to be sound; sent £10 to Mr. Foote that day; on the 9th Mr. Myers was at the riding-school and saw the horse; he rode it up and down; it was then put into the stable; the horses were brought to Watts; he (Mr. Watts) drew his attention to what appeared to be a discoloured bruise on one of the fore feet of the horse, and he said that it was not a corn, though it looked as if it were; examined the horses in other ways and said that they were sound; having seen the chestnut horse trotting afterwards said to Mr. Watts that he did not think he was sound; thought that he was lame; Mr. Watts for his satisfaction said he would trot him out again; he again said that the horse was sound, and he would not set his judgment against that of Mr Watts; witness asked him for a certificate as to the horse; he replied that it was not his custom to give it, unless a horse were going abroad; pressed him again to give the certificate; he would not give it; left the place, and in conversation with Mr. Foote said he was not satisfied, and wished to have the opinion of Mr. Ferguson, and would take them to him; you may take them where you like, said Mr. Foote; the horses were brought to Mr. Ferguson's establishment, and he having examined them, declared them to be unsound; directed the horses to be taken to Mr. Foote, and said he would go to see him; called next morning to see Mr. Foote; he was out; saw Mr. Williams in the office; told him that he had come to see Mr. Foote upon the subject of the horses; he said that there was no use in coming to see Mr. Foote about the horses, that he had authority to receive the £130, and if he (defendant) did not pay the money he would make him pay; the horses were sent to livery, and he (defendant) received a note intimating that they were at livery at his risk.

Cross-examined by *Mr. M'Donough, Q.C.*—On the 8th Mr. Foote warranted the horse to be sound in the presence of Mrs. Foote and Mr. Revell; asked him if the horse was all right, or all sound; he replied that he was; with regard to the mare, Levingstone said to Mr. Foote when he came to the riding-school, "Do you also warrant her sound?—yes, I do," was the reply;—had dealings with Levingstone previously; did not recollect having heard the name of Mr. Watts men-

tioned on the occasion when he went to the plaintiff's office; Mr. Foote and Mr. Revell were present; he was not attending to anything but the sale of the horses, and he had no wish to get the opinion of any veterinary surgeon; but whenever the name of Mr. Watts was spoken of he objected to him, and spoke of Mr. Ferguson, but he did not prefer him to any other veterinary surgeon; Levingstone said to Mr. Foote, "Do you also warrant the mare, and the 'vet.'s' opinion?" I do, said Mr. Foote.

To a Juror—Took the horses on the warranty of Mr. Foote; the opinion of Mr. Watts was for their mutual satisfaction, but would not have taken the horses on the opinion of Mr. Watts; having the guarantee of Mr. Foote did not require the opinion of a veterinary surgeon.

Herbert Levingstone examined by Mr. Sidney.—Asked Mr. Foote the price of the horse; one hundred guineas said he; that is a high charge, said he (witness); I would take £100 said he; would you warrant him sound; yes, said he; "and give a 'vet.'s' opinion?" of course, said he; witness asked him would he give him five per cent. commission if he got him a purchaser; he objected to that amount as excessive, but said he would give it if he procured a good purchaser; mentioned to Mr. Barker the fact that Mr. Foote had horses to sell, and considered that he acted as his (Mr. Foote's) agent; witness, in reference to the conversation in the riding-school, said that Mr. Foote came up, and speaking to Mr. Barker relative to the horses, said he was getting a great bargain of them; I have not seen the mare, said he (witness); do you also warrant her sound? I do, said he. [Corroborated the statements of Mr. Barker as to the guarantee given by Mr. Foote and Mr. Ferguson having pronounced both the horses unsound.]

Cross-examined by *Mr. Battersby, Q.C.*—Had been a coach proprietor.

Hugh Ferguson (veterinary surgeon) examined by Mr. Sidney.—I examined the horse and mare which are the subject of this action on the 10th of November, 1853; I found them unsound; the chestnut horse was lame of the "near" fore leg and also of the "off" hind leg; the right fore foot was considerably contracted, and had on it a slight corn; I considered that decidedly an unsoundness; I measured the feet, one was considerably more than half an inch narrower than the other; even if a horse had no ailment but lameness, I would state that he was not sound; the horse had a bone-spavin so large and conspicuous that it could be detected by a very ordinary judge, without his requiring the aid of the sense of touch in his examination; the hocks did not appear

to be naturally large; one of the hocks was diseased; the other appeared free from disease; the mare had got a bony enlargement upon the right fore pastern which I designated "ringbone;" her locks were curby.

Cross-examined by *Mr. Battersby, Q.C.*—Decidedly I am not infallible——

Mr. Sidney (to witness)—Is it a fact that you would pronounce a horse to be unsound merely because it had been pronounced to be sound by Mr. Watts?

Witness—On the contrary, that is a most malicious allegation.

Mr. Battersby, Q.C.—Perhaps you don't entertain a bad opinion of him at all?

Witness—I don't intend to answer that question. I leave you to judge what opinion I entertain of him; I think it is not fair to ask me what I think of him; I don't believe thoughts will be taken in evidence (laughter).

Is not the ordinary representation of Dycer's, in selling a horse which is supposed to be sound—"engaged sound—subject to the opinion of a veterinary surgeon?"

I am not aware that it is.

If a horse be sold "sound—subject to the opinion of a veterinary surgeon" named, is that opinion conclusive.

Decidedly not, if it be erroneous, particularly if the surgeon has been selected by the vendor instead of the vendee; I wrote down the examination relative to the "soundness" of the horse for the purpose of preventing you, Mr. Battersby, in your cross-examination, from inducing me to commit errors, you are so exceedingly sharp (laughter).

Mr. Battersby—Well, I shall begin to entertain a better opinion of myself, after such a character from so high an authority.

Witness—I cannot say how long before November, 1853, I saw this horse lame, but at the period when I examined the horse, the fact of my having before observed it to be lame escaped my memory, but it occurred to me before leaving the yard.

Mr. Battersby—I am only surprised that you can recollect the circumstance so well.

Witness (to Mr. Battersby)—The horse was something like yourself—once seen never to be forgotten (laughter).

Was the horse very lame when you examined him!

He was not; he was so lame that his lameness could not have escaped a practised eye, but would that of the "uninitiated;" lameness is not always the result of pain; for instance, if you had a wooden leg, Mr. Battersby, you would

be lame, though you might feel no pain (laughter); the mare was not lame, but the horse decidedly was; I saw the horses yesterday—the horse is still spavined, and the curbs on the mare appeared to have increased.

To a *Juror*—I should not like to say what value I would put on the horse now.

I could not yesterday determine whether the animals were lame or not, they were so fresh and skittish, and dangerous to approach; and the place where they were was not sufficiently roomy to enable me to judge.

John Martin, examined by *Mr. O'Hagan*, *Q. C.*—Was a veterinary surgeon; examined the horse and mare; found the horse diseased with bone-spavin; the horse and mare were both unsound on the 2d of February.

Cross-examined by *Mr. Lynch*, *Q. C.*—When I examined the horses I was not aware that Mr. Ferguson had previously examined them; a bone-spavin might exist for years without affecting the horse by lameness; neither of the animals were lame when I saw them.

Mr. Wainwright, another "veterinary," deposed that he examined the horse and mare on the 3d or 4th of February, and found them to be unsound.

George Eccles Nixon examined by *Mr. Sidney*—I am a retired army veterinary surgeon; I saw the horse and mare at Farrell's livery stables on the 22d of February; I observed on the horse's off hock a bone-spavin of considerable extent and of long standing; his near fore foot was contracted; all the pasterns of the brown mare were disorganised: the disease was of long standing; she was also curby; the horse and mare were lame.

Cross-examined by *Mr. Battersby*, *Q. C.*—There might be a natural malformation of the part, which would cause bone-spavin; violent exertion or injury to the part would cause it; I won't say the mare had ring-bone.

The next witness was a *Mr. Gilbert*, who was a dealer in horses; he knew the custom of the trade long before people were in the habit of taking the opinion of a veterinary surgeon; fifty things were thought of now as regarded diseases of horses which were not thought of then; the horses were then shoed differently; a personal warranty held good irrespective of the opinion of a veterinary surgeon; if a person said he believed a horse to be sound he gave a warranty.

Cross-examined—The words, "but I sell the horse subject to the opinion of a veterinary surgeon," do not affect the warranty given by the party by whom the horse is sold that the animal is sound.

Edward Dycer, examined by *Mr. O'Hagan, Q. C.*—Is a veterinary surgeon; examined the horse of Mr. Foote, and gave a certificate on the 21st of November; the chestnut horse was perfectly unsound; he was spavined and had corns; the mare had corns upon both hocks, and bony enlargement, which he called "ringbone;" she was decidedly unsound; if a party gave a warranty subject to the opinion of a veterinary surgeon, the latter opinion was binding; but if he gave a warranty, and likewise promised and procured the opinion of a veterinary surgeon, the warranty of the seller was binding; diseases may be latent in horses, and therefore escape the notice of the surgeon, and if the seller warrant a horse sound under such circumstances, and he turn out to be unsound, he may be sent back.

To the *Chief Baron*—If the horse is sold as sound, "subject to the opinion of a veterinary surgeon," the professional opinion binds; if a warranty is given, and "also the opinion of the veterinary surgeon," there the warranty over-rides the professional.

Cross-examined by *Mr. Battersby, Q. C.*—Sold about fifty or sixty thousand horses in the year; the most usual practice was to sell horses subject to the opinion of a veterinary surgeon; a technical unsoundness was that which would not interfere with the utility of an animal; an essential unsoundness was that which did interfere with his utility.

The *Chief Baron*, with the consent of the parties, read the evidence given on the former trial by a horse dealer named Myers, to render his personal examination unnecessary. From the testimony it appeared that he (Myers) lived in Manchester, and when in Dublin he saw the horse in the Castle yard, and would have bought him for £125, but that he was lame of the fore feet, and was not, in his opinion, sound.

Mr. O'Hagan, Q. C., at the close of the evidence for the defendant, contended that his learned friend, Mr. W. Sidney, was entitled to a speech on behalf of the defendant, inasmuch as certificates had been produced and handed to Mr. Ferguson on cross-examination, which amounted to a rebutting case.

The *Chief Baron* said that he did not think the documents had been given in evidence; they had been merely produced and handed to the witness to refresh his memory; he would say, that the credit of the witness had not been at all affected by what had taken place in court in connection with those documents.

Mr. O'Hagan, Q.C., replied, that if that was his lordship's opinion he was satisfied.

Mr. Battersby, Q. C., then addressed the jury on behalf of

the plaintiff. He stated the case of his client to be, that he had made a *bona fide* and reasonable sale of horses, and that he had qualified his statement to the defendant as to their soundness, by giving it subject to the opinion of a veterinary surgeon. Having observed upon the evidence and characters of the witnesses by whom the evidence had been given, the learned counsel referred to Oliphant on the law relative to horses, to show that "even the positive recommendation of a seller was not, from the nature of the case, to be regarded as a warranty, but merely an expression of his belief or opinion on a matter on which he could have no certain knowledge," and that if a warranty were given without a qualification, that warranty bound the person by whom it was given; but if the qualification were given, it was not a warranty but a representation. Counsel also cited cases in 1st Starkie and 4th Campbell, to show that unsoundness meant any present infirmity which rendered a horse less useful. He also commented on the absence of Mr. James Farrell and Mr. William Dycer, both of whom, he was justified in saying, would have corroborated the opinion of Mr. Watts. The case of the plaintiff was, that the horses had been sold, subject to the opinion of Mr. Watts, which opinion was to the effect that the horses were sound; they had, likewise, as to the contract, the evidence of Mr. Foote, Mrs. Foote, Mr. Revell, and the conduct of the parties in reference to that contract. In conclusion, the learned counsel said that there was one observation which he wished to make—namely, that one of the issues reflected upon Mr. Foote, as being aware that the horses were unsound at the time he sold them: on the former occasion, that issue was abandoned. He (counsel) did not know what the defendant's counsel intended doing upon the present trial.

Mr. O'Hagan, Q. C., said that he had not pressed that view of the case, and did not mean to rely upon it.

The *Chief Baron* charged the jury. His lordship read the issues which raised these questions for the consideration of the jury—Was there an agreement; if so, what was its nature? Was the sale of the horses subject to the opinion of Mr. Watts? Did the plaintiff give a general warranty? As to the issue ascribing to the plaintiff a knowledge of the unsoundness of the horses, the jury need not trouble themselves with it; they should find for the plaintiff upon that issue; but as to that issue there was no controversy, and it had not been pressed upon the present or previous occasion. There, however, was a controversy as to the words and meaning of the contract, and it would be their duty to weigh the testimony that had been given. As to a general usage it was this—a

general usage affecting a trade that the words used should bear a specific meaning attached, that meaning which the usage sanctioned, and persons engaged in dealings within the trade were considered by the law to make a contract by a reference to that usage. Where the words were clear, the law did not allow usage to control their meaning; but where there was ambiguity in terms, and the trade affixed a particular meaning to words, it was but common sense that those engaged in the trade should be considered as acting according to the meaning which the usage attached to the terms, and as dealing on foot of that usage. But the jury should be satisfied not that it was the usage in a particular establishment, but a general usage governing the trade; for, unless the usage was general, and prevailing in the place in which the contract was made, the law did not allow any interpretation of the words by a mere reference to usage. With regard to the law as to what constituted unsoundness in a horse, he (the *Chief Baron*) did not concur in the proposition of Mr. Battersby; he was more disposed to say that his opinion, and that which he would read, very nearly corresponded with the evidence given by Mr. Dycer. His lordship then read the opinion in which he concurred, namely, that unsoundness in a horse consisted in any disease at the time of the sale which diminished his natural usefulness, and rendered him less capable of performing work of any description; or a disease which, in its ordinary progress, would diminish the usefulness of the horse; or if the animal had from disease or accident undergone an alteration of structure, which at the time, or at a future period, would, as its ordinary effect, diminish the natural usefulness of the animal. His lordship, having gone through the principal part of the evidence, left the case with

The *Jury*, who found a verdict for the plaintiff, and £59 10*s*., the keep of the horses.—*Saunders's News Letter*, *July* 4, 1854.

THE VETERINARIAN, AUGUST 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

THE HORSE-SANDAL IMPROVED.

The sandal, the invention of Mr. Percivall four and twenty years ago, has recently undergone improvement of a kind which, now that it is made, appears so obvious and simple, that the only surprise is, it should so long have remained in the comparatively ineffective condition in which it was originally constructed. Passing, one day, by a shop where caoutchouc and gutta percha articles were exposed in the window for sale, the sight struck the inventor with a notion that caoutchouc, with or without gutta percha, might possibly be made available for his sandal, in attaching it to the foot in a readier and firmer manner than was done by the web-straps and buckles and pads before employed for that purpose. A yard of vulcanised India-rubber, of the width of strapping, was forthwith purchased, and experiment made with it, which resulted in the expediency there seemed to be of having the ends of the caoutchouc united so as to form an *endless* or *circular band;* this was, at first, effected by splicing with wax-end; afterwards, in a neater and more effectual manner, by copper rivets; though, still, the contrivance did not possess to the eye that compactness and neatness which was desirable, and into which it appeared quite susceptible of being converted. The caoutchouc manufacturer was consulted, and he at once brought forth an endless strap or band out of the factory, which so completely answered the purpose required that it seemed to be the *ne plus ultra* of our desires. With an *endless band* of this description have our experiments been proceeded with, and the results obtained have been satisfactory to a degree to warrant us in recommending the sandal, *in its improved form*, as a much more efficient substitute for the horseshoe than it was in its original construction, and as such, so far as we are able at present to judge, to be nearly or quite all we could desire, or had any right to expect.

The language in which the uses and advantages of the horse-sandal was pourtrayed on a former occasion, so long ago as 1830, will be found quite applicable to it in its present more finished and yet much simpler condition; and, therefore, looking at the number of years such account of it has been before the public, we shall take the liberty of transcribing it from the pages of the *Veterinarian*, for January, 1831 (vol. iv of that publication), wherein we find it headed:

AN ACCOUNT OF THE HORSE-SANDAL OR REMOVEABLE HORSESHOE,

INVENTED BY MR. PERCIVALL.

(*Read by him at the Veterinary Medical Society, Dec.* 1, 1830.)

To attach a shoe (or anything that shall answer the purpose of one) to the foot of the horse without the aid of nails, or by such means and in such manner as shall render it both serviceable to the animal and removeable by and at the pleasure of his rider, has long been, among the followers of the chase [and by officers of cavalry], a thing most desirable to be accomplished. The difficulties presenting themselves, however, in this field of experiment, have proved such as not only to render abortive all hitherto-made trials, but, for some years past, to deter any others from being made at all. The natural shape of the horse's foot is such as to render it very unsuitable for the attachment of any sort of bandage or ligature; added to which, it is a part possessing inward self-motion, and consequent power of variation of shape and volume: two circumstances which (connected with the superincumbent weight the foot has to support, as well as to move with activity under) will be found to oppose considerable difficulties in the way of any one who may engage in an undertaking of this description.

In submitting the present invention to the public, rather than risk any recommendation of it that may appear in the light of unwarrantable praise, I shall send it forth "with all its imperfections on its head;" simply setting down such facts as can be readily proved or attested, and, with the statement of them, leaving others to judge to what extent and in what ways it may be rendered most useful.

With a sandal well fitted and properly secured upon the foot, a horse will be prepared to perform the same as though

he were shod in the ordinary mode ; at the same time let me observe, that, if there be any one point more than another concerning which I am apprehensive people may run into a mistake in regard to the uses or purposes for which the sandal is either fitted or designed, it is, lest any body should imagine that *it is intended for general, for ordinary use*, or in anywise *to supersede the common* (and hitherto unsurpassed) *nailed-shoe*. No such an achievement was ever contemplated ! From the very first it was framed simply as a *substitute* for a nailed shoe, and that only in situations where the latter could not be procured : in a word, the sandal was constructed to accompany the fox-hunter in his chase [or the cavalry man in the field] in order to be ready in case he should "lose a shoe," to supply the place of that shoe, and so enable him to continue his chase ; and, *if it answers this end, it has fulfilled the design and purpose of its invention*.

On such occasions as the present, the inventor is commonly told by some "good-natured friend," that his production is "not *new*," that "similar inventions have preceded it," and, without giving the *poor thing* a single trial, that "it is quite impossible it can answer." Such cavilling, because it ever proceeds rather from envy than argument, in truth, deserves neither reply nor notice ; still, what I am about to observe may serve the end of a reply, or, at all events, may be taken as my answer (herewith given beforehand) to all who may feel disposed to set their faces against my invention upon such frivolous and unwarrantable grounds.

Whether a thing be *new* or *old*, I apprehend that its real and intrinsic merits must remain unaltered and unaffected. And I never in my life heard any rational person detract from the credit of another who had introduced some useful invention, merely because he was the reviver or the restorer in place of the inventor of it : for my own part, of the two, I should feel inclined to yield more praise to that person who had saved some serviceable invention from oblivion, than to the original inventor, who had failed in establishing its merits. However, be this as it may, I contend, that, of the present production, I am not merely a reviver or restorer, but the original inventor; since this is the first thing of its kind which has appeared before the public with any chance of success.

It certainly becomes the duty, and the interest as well, of every one who brings any new invention forward, to point out its nature, and particularise the uses for which it is designed ; but, in my mind, it admits of considerable doubt (in certain cases at least, among which the present forms one), how far

it is proper or politic in him to accompany this account with much in praise of his invention. Unless he himself had entertained a good opinion of his production, he would hardly have brought it before the public at all; and when he has once done so, that disinterested and many-eyed arbiter—the public—is vastly more competent to form a proper estimate, and come to a just conclusion on its utility and value, than the prepossessed inventor himself. All the puffing in the world will not thrust an unworthy invention down the throats of the public against their more sober and better judgment, however much or long the bantling may have been cherished by its parent; for, even though the cramming system should succeed for a time, still the day *will* come when the apparition will be unveiled, and its insubstantiality demonstrated. An individual is at liberty to invent or introduce novelties, but it is for the collective body—the *public*—to stamp the utility or value of such introductions.

With this preface I shall commence my *description of the sandal*, succeeding its description with *directions for the application of it*, and concluding with an account of the *uses* for which it appears fitted in sporting and veterinary practice.

DESCRIPTION OF THE SANDAL.

The sandal consists of two parts:—*the shoe*—the iron part, or that which defends the bottom of the foot and sustains the wear; and *the* endless or circular band, whereby the shoe is fastened to the foot.

The Shoe bears much resemblance to the frog-bar shoe some years ago introduced into practice by Professor Coleman. I myself suggested to the professor, at the time, the expediency of splitting the bar more widely, and making its heels rest upon the bearing places of the common shoe, rather than suffering it to abut against the frog. And I have selected this shape for the shoe of the sandal, as being stronger, and adapted with the least quantity of metal, to afford the greatest possible cover and protection to the foot. To answer the purposes, for which the sandal is intended, it became necessary that the shoe should be light, and conveniently portable; at he same time, it was required to be strong and protective.

For the sake of elucidation, and for more ready reference, to the different parts of the shoe I have appended names: they are, however, but few in number, and are such as seem to me naturally to suggest themselves; and consequently will, I hope, require but to be seen to be remembered.

From an inspection of the Frontispiece it will be seen that the shoe, or iron part of the sandal, consists of three *principal* parts, to which the others are appendages; which are, the *tip*, so called from its resemblance to the horseshoe of that name; the *middle bar*, the broad part proceeding backward from the tip; and the *side bars*, or branches of the middle bar, extending to the heels of the hoof. *The appendages* are, the *toe-clasp*, the part projecting from the front of the tip, and which moves by a hinge upon the *toe-clip*, which toe-clasp is furnished with an *iron hook*. *The heel-clips* are two clips at the heels of the side bars which correspond to the toe-clip; the latter embracing the toe of the crust, while the former embrace its heels. Through the heel-clips run *the rings*, which move as a hinge acts, and are for the purpose of admitting the *endless elastic band*. In the plate, the left ring only is represented. These different parts are of different dimensions; the relative proportions of which are regulated according to a graduated scale, drawn from certain averages obtained by the admeasurement of a great number and variety of horses' feet: whereby the different sizes are so ordered, that almost any horse can be suited with a shoe without any or but very little alteration being required.

The Fastenings (instead of, as formerly, consisting of a *hoof strap*, and a *heel-and-coronet strap*, with *heel-and-coronet pads*) are all included in *one simple endless elastic band*.

APPLICATION OF THE SANDAL.

It may not prove an easy thing to point out the little dexterity required to slip the sandal upon the foot, or even to show the knack of taking it off; and yet nothing, after being demonstrated, can appear simpler or be more readily learnt. Place the horse's foot between the knees (after the manner a blacksmith would to shoe him), and place the sandal upon the foot; then put the thumbs down firmly upon the heels, and insert the two fore-fingers of each hand within the band, now lying across the sandal, and stretch the hinder portion of the band over the heel, and push it well up into the hollow of the heel: lastly, with the thumbs again, stretch the fore portion of band over the toe, and force it underneath the hook in the clasp.

The *Gazette* announces the appointment of Mr. Wilkinson, V.S., 2d Life Guards, as Principal Veterinary Surgeon.

It has caused us regret to learn that the vacancy in the office of Principal Veterinary Surgeon, occasioned by the death of Mr. Cherry, should have proved the offspring of an act of injustice to two Regimental Veterinary Surgeons, undeserving of the cruel military stigma which such rejection has fastened upon them. The seniority list stood as follows:

Mr. Siddall, V.S., Royal Horse Guards (Blue), Oct., 1812.
Mr. Percivall, V.S., 1st Life Guards, Nov., 1812.
Mr. Wilkinson, V.S., 2d Life Guards, April, 1826.

The selection of Mr. Wilkinson, out of his turn, has been made, as will be seen by the official letter hereunto annexed, ostensibly, to consist in the performance of a "very important duty in Turkey," that of buying horses for the army there; and it is one to which he appears especially fitted: it is one which, a little while ago, was performed by Captain (now Colonel) Wingfield, at Woolwich, for the Artillery; and, before him, by Colonel (now Major-General) Richard Jones; and by both, very efficiently and satisfactorily: the same office was likewise filled, with the army in the Peninsula, by Tom Marsden, a well-known horse-dealer, very much to the satisfaction of the Commander of the Forces there, the Duke of Wellington. To set such a qualification as this, however good and effective it may be, against sterling attainments requisite to make a scientific and practical veterinary surgeon, is like putting chaff into the scale to weigh against corn; it is the husk competing with the kernel—the shadow against the substance: however,

"Kings (*princes*) have long arms,"

and so the matter ends.

HORSE GUARDS; 15*th July*, 1854.

MY DEAR LORD,—I had the honour to lay before the General-Commanding-in-Chief your Lordship's letter of the 13th inst., recommending Mr. Percivall, the Veterinary Surgeon of the 1st Life Guards, to succeed the late Mr. Cherry as Principal Veterinary Surgeon, and I have now received Viscount Hardinge's directions to acquaint you that he regrets it will not be in his power to give effect to your

Lordship's recommendation in this instance. The appointment will be conferred on Mr. Wilkinson, the Veterinary Surgeon of the 2d Life Guards, of whose qualifications Lord Hardinge has had reason to form a very high opinion, and who, *from his professional acquirements* and activity, was selected for *a very important duty* in Turkey, where he is at present. I have the honour to be,

My dear Lord,

Your Lordship's faithful Servant,

C. YORKE.

General the Viscount Combermere, G.C.B.

PROCEEDINGS OF COUNCIL.

AT a meeting of veterinary surgeons held at the Institute, July, 1854, it was unanimously resolved:

"That the first President of the Royal College of Veterinary Surgeons, Thomas Turner, Esq., nominated in the roster, and re-elected for several succeeding years, is well deserving, from the zeal and assiduity with which he performed the duties of his onerous position, of a demonstration of the esteem and value entertained for him by his professional brethren.

"That a memento thereof, in the form of a portrait or bust, to be placed in the Institute of the College, be obtained by subscriptions of not more than one guinea each from the members of the profession.

"That, for the purpose of carrying out this object, a committee be formed, consisting of the President and Ex-Presidents of the Royal College of Veterinary Surgeons, Messrs. Field, Robinson, and Goodwin, with Professors Spooner, Simonds, and Morton, and Mr. Gabriel.

"That subscriptions be received by the members of the committee, and at the Institute of the College."

E. N. GABRIEL,

Hon. Secretary to the Committee.

OBITUARY.

Died, after a few days' illness, of influenza, at his house, at Clapham Rise, on the 11th ult., at 25 minutes past 9 o'clock P.M., F. C. Cherry, Esq., Principal Veterinary Surgeon to the Army, at the age of 75.

THE

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HOMŒOPATHY *v.* ALLOPATHY.

A Reply to the Observations of Mr. Dun, which appeared in 'The Veterinarian' for August 1854. By W. Haycock, V.S., &c.

"No man thoroughly understands a truth until he has first contended against it, neither has he a thorough acquaintance with the hindrances or talents of men, until he has suffered from the one, and seen the triumph of the other over his own want of the same."—*Ralph Waldo Emerson.*

"'I tell you I will lie in nothing,' answered Don Quixote; 'make, therefore, either a beginning or an end of asking; for in truth, you tire me out with so many preambles, postulations, and preparatives, Sancho.'"—*Jarvis's 'Don Quixote,'* p. 227, vol. ii.

Sir,—I must confess my astonishment at Mr. Dun's communication of last month, from the lofty position assumed by him in the first instance as knight errant to Allopathy, and generalissimo to the veterinary ranks at large: I scarcely expected that he would have raised the siege, and evacuated the provinces of homœopathy so suddenly. After maintaining the battle very hotly for some months, he all at once abandons it, and the only plea he adduces for so doing, is, that he is sorry, and that time will not permit; otherwise, I suppose, the punishment and slaughter would be something unparalleled in the annals of modern warfare. In my last communication I replied to the arguments of Mr. Dun seriatim, and in every instance with most triumphant proof of their fallacy, and utter want of every essential as aids to the cause he was endeavouring to support. The great portion of the facts which I advanced, were drawn from the ranks of the enemy, or in other words from the writings of men, who did or who do pursue the same course in the treatment of disease which my opponent himself does—these arguments and

reasonings Mr. Dun has designated as "*dubious*" and "*specious*;" but if such be the fact, the censure falls upon his own party, and it is a piece of illnature on his part to endeavour to fix it upon my head.

Mr. Dun is kind enough to inform the reader that my last reply consists of the rakings up of "the old and oft vanquished forces with which Homœopathy has for years past been making *feeble* fight with rational medicine." If such be the case, I can only say, with Falstaff, that it is a "*most forcible feeble*" to have been so frequently vanquished, and yet reappear in the field of battle with such renewed vigour; allow me, however, to say, that they are neither old nor yet oft vanquished; if they have been vanquished before, it is easy to vanquish them again, and why the gentleman has not done so, when the materials (if we are to believe him) are so plentiful, is best known to himself. My opponent is very tenacious upon one point, and he holds to it with much the same desperation, that a drowning man would be supposed to hold to a straw. He wishes to know the exact limits of similarity which should exist between *the disease-producing power of a drug; and the disease to which it may be administered for the purpose of cure;* for without this definition, we are further informed, that all my "talk about Homœopathy is perfectly vague and useless." I am surprised at this question being so repeatedly asked—is the asker so foolish as to suppose that the exact limits can be defined with the same precision and accuracy that he may be able to define a problem of Euclid? Mr. Dun either knows, or he ought to know, that no such definition can be given to any question, of whatsoever nature it may be, unless it fairly comes within the sphere of pure mathematics. The rule laid down by Hahnemann is sufficiently clear and simple to any man who will use his common sense, instead of straining after hair breadth distinctions and differences—distinctions and differences which come within that interminable region, designated as the metaphysical. Hahnemann says: "*To effect a mild, certain, and permanent cure, choose in every case of disease, a medicine which can itself produce an affection similar to that sought to be cured.*"* Elsewhere, he again observes, when speaking of the same thing: "In order that they (drugs) may effect a cure, it is before all things requisite that they should be capable of producing in the human body *an artificial disease as similar as possible* to the disease to be cured."† Such are the words of Hahnemann, and I should say that any man of common

* 'Oganon, Introduction,' p. 56.

† Vide p. 133.

sense would declare that the matter is perfectly plain—that it is plainly stated, and plain to understand; yet my opponent either does not understand it, or will not, I really cannot say which; for in the '*Veterinarian*' for June, pages 323-24, he says: "Surely these statements warrant the conclusion that the remedy most eminently adapted for the cure of any disease should, homœopathically considered, be one capable if possible of inducing the same disease." Now here is a conclusion with a vengeance, and how on earth any man can spend his time penning such nonsense (indeed if he thinks at all he must see that it is nonsense), is to me inexplicable. Does not Mr. Dun know, that if the *same thing* be produced, that it is the very thing which is required to be cured? He afterwards complains that I permit a deal of ambiguity to rest around the word "similar," but I feel assured that every reader will agree with me when I affirm that the ambiguity rests entirely with himself, and not in the least either in the proper meaning of the word, or in what Hahnemann has said about it, or in what I have said. While upon this part of the question, which in fact is the real question at issue, I cannot omit noticing the last portion of my opponent's last communication: I will quote the part entire, lest it may be affirmed that I misrepresent him. He says: "Allow me in conclusion, to notice a very serious paradox attaching to the law of similars. It involves the strange belief, that every medicine is possessed of two opposite actions—opposite, not only in degree but in kind; that it is capable, in different doses, of producing certain artificial symptoms, and in certain other doses, of removing morbid symptoms similar to those it produces. In the case of every medicine, then, there must accordingly exist what may be termed an ascending and descending series of effects, and between these two, *a portion of neutral ground where the two opposite actions antagonise each other, and the medicine is inert*, or at all events exhibits neither the one effect nor the other. A single illustration will clearly exhibit the absurdity of this position. Sulphur in large doses produces irritation and eruption, and in small doses removes irritation and eruption. Aconite causes fever, and cures fever. Iodine developes and reduces glandular enlargements. And hence arise some important questions which must be settled before homœopathists can practise their system safely and successfully. Required, in the case of all medicines, the exact doses capable of producing the artificial symptoms which are to constitute the key to the practical use of the medicine. Required also, in the case of all medicines, the dose in which they neither cure any artificial symp-

toms, nor cure any morbid symptoms. Required, lastly, in the case of all medicines, the precise limits of the curative dose."

Most readers, in perusing the above, will, I believe, experience some little difficulty in understanding it, and when they do clearly understand it, they will at the same time arrive at the very gratifying conclusion, that the greater portion of it is entirely destitute of any rational meaning. In the first instance, we are told something about "a very serious paradox" then about opposite actions, and artificial symptoms, and morbid symptoms; then something more about ascending and descending series of effects, between which we learn is "*a* portion of neutral ground where two opposite actions antagonise each other, *and the medicine is inert.*" Now how Mr. Dun came to know that one thing can produce at the same time two opposite actions, and yet at the same time be inert, or not act at all, is to me a mystery,—talk about serious paradoxes indeed! here is one which, to use a Yankee phrase, "bangs all creation," and I quite agree with my opponent, "that a single illustration will exhibit the absurdity of" his "position."

Again, with regard to Mr. Dun's questions, or those matters upon which he requires to know so much, let us examine them and see whether they contain any more thought than what is contained in the paradoxical part of the quotation. "*Required, to know in the case of all medicines, the exact doses capable of producing the artificial symptoms which are to constitute the key to the practical use of the medicine.*" To fully answer this question would occupy both a considerable time and a considerable quantity of paper, and after all we should simply prove that a certain quantity of medicine of a given kind would produce such and such effects, and that is all it would prove; most certainly it would not afford any argument against homœopathy, but independently of this, the question takes for granted that which is false; it assumes that the mere symptoms which a medicine is capable of producing, constitute the key to the practical use of the same, whereas not anything can be further from the truth. The real key to the practical use of a medicine, *is to be found in its specific pathogenetic action.** It is true the medicine to be used must have reference to all the important symptoms, objective and subjective, which can be observed or made known to the observer; but what is of far greater importance, the remedy must be chosen whose

* See the Preface to my 'Elements of Veterinary Homœopathy,' London, Aylott and Co.

powers (if given to any one in health) would be exerted specifically upon those particular tissues or structures diseased, in as closely similar a manner as possible to the state sought to be removed. From a want of knowledge respecting this fact, those who oppose homœopathy are continually stating that they who pursue the system pay no regard to pathology and morbid anatomy.

"One of the most serious errors" says Mr. Dun, (*'Veterinarian'* for June, pp. 325) "into which homœopathists have fallen, is their utter disregard of pathological changes, and their exclusive attention to the mere symptoms of disease." Now the fact is, homœopathists have a greater necessity to study pathology and morbid anatomy than what allopathists have—they are under a threefold necessity to cultivate such branches of study. They must do so to obtain a proper knowledge of disease; secondly, to obtain a proper knowledge of the specific action and the disease-producing power of drugs; and finally, for the purpose of instituting accurate comparisons between the two, in order that the law of similars which will be found to be a legitimate deduction from such comparisons, may be at all times of the highest efficiency possible. Regarded in this light, homœopathy is a very different affair from the absurd caricature of it, which Mr. Dun would fain palm upon the world. The next question presented to our notice is this. "*Required, to know in the case of all medicines the dose in which they neither cure any artificial symptoms, nor cure any morbid symptoms.*" The answer to this query is easy, and I beg to inform my opponent that its true solution is to be found upon that "*portion of neutral ground where the two opposite actions antagonise each other, and the medicine is inert.*" The last requirement of Mr. Dun relates to the "*limits*" of the dose. He says: "*Required, lastly, in the case of all medicines, the precise limits of the curative dose?*" This is a question which I am far from certain that I clearly understand, when he speaks of "the precise limits of the curative dose," in what sense are we to interpret it? Does he mean its limits in weight, or in its length and breadth, or in its intensity of force; or in what sense, I again ask, does he wish the reader to understand it? Until I clearly understand what it means, I am under the necessity of leaving it alone, otherwise I would have answered it to the best of my ability.

One more quotation from my opponent's last communication, and for the present I will have done both with him and his "serious paradoxes." I should not have noticed the portion in question, but, from its downright, wilful misrepre-

sentation of facts. He says, pp. 441-42, "to begin with sulphur, Mr. Haycock, quoting from Erasmus Wilson, says: 'If its use be prolonged, it may be the occasion of an eruption similar to the eruption of itch.' And he further mentions, that the German sulphureous waters frequently produce a rash on the skin of visitors who drink them. *The frequent infriction of sulphur* will certainly produce irritation and eruption on the delicate human skin; and this, argue the homœopathists, *is the explanation of its efficacy in removing* itch, and such other cutaneous affections. But if this, as homœopathists *assert*, be the true source of its curative value, it is but fair to infer that other substances, such as mustard, sand, and all substances capable of producing similar irritation and eruption, should, like sulphur, be possessed of similar efficacy in the cure of skin diseases. This is surely enough to scatter to the winds Mr. Haycock's hypothesis regarding the action of sulphur." In the above quotation, several things are assumed as true which are false in every essential. In the first place it is stated, that the frequent *infriction* of sulphur upon the delicate skin produces eruption and irritation upon it; that the effects of such infriction constitute the entire ground of similarity to itch, and other skin eruptions; that homœopathists explain and assert such to be the true source of its curative value in these affections; that mustard and sand are capable of producing similar effects; and that therefore they should be possessed of a similar efficacy in curing the same. Such are the facts and inferences contained in the above quotation. That they are utterly false I assert without fear of contradiction. Homœopathists nowhere allude even to infriction with sulphur upon the skin in any such sense; neither do they explain and assert such to be the true source of its curative value in skin diseases. To suppose for a moment that their views of the pathology of itch, and their knowledge of the pathogenetic action of sulphur, are of so flimsey and of so mechanical a nature, is preposterous in the extreme. In my first communication, I stated that Mr. Dun had taken upon himself the task of expounding a system of medicine of which he was totally ignorant, and in the communications which I have subsequently made upon the same subject, I believe that I have furnished ample proof of its truth. I have no doubt but what my opponent has read a great deal upon homœopathy, but he has read for the mere purpose of talk and contradiction; I hope now that he will commence anew, and read to well weigh, and maturely consider. I should be sorry if my opponent is under the impression that I am animated by any unmanly or improper

feeling towards him; I believe him to be a young man of very high ability; I believe him upon the whole to have written a very excellent book, and I believe him to naturally have that kind of power within him, which, if properly directed, will ultimately add something of value towards the improvement of the miserable state of our art; but too much praise appears to have intoxicated him, at any rate he appears to have become conceited; let him beware of this, and strive to avoid it for the future. I censure much the slight (indirect I grant) which he put upon the labours of that excellent veteran in our ranks, Mr. Morton. I allude to the preface of Mr. Dun's book, which commences as follows:—"During the four years in which I have lectured on materia medica, at the Edinburgh Veterinary College, I have endeavoured in vain to find a *suitable* text-book for my class." Now for writing the above he richly deserves a vote of censure from every right thinking member of our profession. It is foolish to suppose that he never saw or heard of "Morton's Manual of Veterinary Pharmacy," and I have not the slightest hesitation in saying, that that is a very suitable text-book for the veterinary student; the fact of its recent appearance as a fourth edition is a sufficient answer as to its suitableness. I feel a most sincere respect towards every man who performs real work; it is a true sign that such a man understands his mission in the world, and strives to accomplish it. I am not acquainted with Mr. Morton, I never saw the gentleman but once, and that was many years ago; but I know him to have written a very suitable text-book for veterinary students, upon Veterinary Materia Medica. I do not mean to say that it is the very best book that could possibly be written upon the subject; but Mr. Dun does not speak of quality, he speaks merely of suitableness. I trust, then, that from this time, Mr. Dun will work more in the true spirit of a genuine worker; and when it is done, that he will value it rightly; it will teach him the value of work performed by other men; but let him not over value it, lest it begets within his heart a false estimate, and engendereth it with conceit. He may affect to slight the labour of others, but if others had not lived and toiled in the same path before him, it is precious little which he or any one individual could do towards building up such a structure as the veterinary art is at present, poor as I may consider it. Let him then award honour to whom honour is due; not sparingly nor grudgingly; but with a full liberal soul; and in the end he will receive in return, that which is justly due to himself; "so mote it be."

GRIPES AND CONSTIPATION OF THE INTESTINES.

By Jno. Tombs, Stratford-on-Avon.

July 18th, 1854.—A grey half-bred mare, 5 years old, 14½ hands high, was attacked with gripes at 10 A.M., after eating a quantity of unsplit beans. A saw her at 1 P.M. Symptoms: pulse 80 and strong; rolls about; looks back; paws; a difficult matter to approach her. Two blood-lettings during the day; gripe mixture; enemas; actual cautery applied to the abdomen; in the evening, gave Aloes Barb. ℥j in solution.

19th.—Pulse 104; is, and has been, in great pain throughout the night; buccal and schneiderian membranes and tunicæ conjunctivæ nearly black; countenance dejected; has had no motion. Blood-letting; gave Aloes Barb. ʒvj. during the day; enemas; and abdomen stimulated.

20th.—In *statu quo;* has had no fæcal evacuation. Treatment as before, with the exception of administering Aloes. Ol. Ricini O. was given twice in the day. At 4 P.M. no evacuation. I raked her, but found no fæces in the rectum. In the night she had three motions, for the first time, but the fæces were hard. Still in great pain: pulse 106; countenance depressed. Gave O. Ol. Ricini twice in the day, and continue treatment as before; no appetite.

21st.—Pulse 105; in pain; refuses food; drinks slops; has had several evacuations in the night.

22d.—Pulse 104; pain as usual, although she is freely purged; will not eat; drinks gruel. Gave a stimulant and opiate, and starch enemas; in the evening gave Opium and Pulv. Terræ Japonicæ.

23d.—Much the same as yesterday; purges tremendously. Gave Opium and Terra Japonica, and starch enemas; refuses food; drinks large quantities of gruel.

24th.—Purging greatly lessened; pains diminished; pulse 60; countenance more lively; eats bran mashes. Gave a vegetable tonic.

25th.—Pulse 45; membranes previously mentioned of a natural colour; pains entirely ceased. Gave mashes and warm water.

28th.—Recovered.

I record this case as being one of an obstinate character. —Constipation of bowels for three days; the large quantities of purgatives given before the bowels were acted upon; and also the very quick pulse for five days.

DISEASE OF THE STOMACH AND INTESTINES IN A COW.

By the Same.

July 19*th*, 1854, *at* 1 *p.m.*—By request, I saw a cow with apparently acute dysentery; she was in full milk, and six years old. When the shepherd went to fetch the cows into the yard early in the morning, to milk them, the cow in question was lying down by herself in the pasture field; she had been purging excessively. Symptoms:—voids large quantities of dark green coloured liquid fæcal matter of a highly offensive character, and mixed with mucus; lies down, looks back; nose dry, ears and extremities cold; pulse weak and upwards of a hundred beats in a minute; no tension of abdomen; evidently sinking. Gave stimulants and opiates, and ordered mustard applications to the abdomen. Died in the night.

20*th*, *Post-mortem Appearances.*—Coats of the duodenum black and gangrenous; the bowel contained black liquid matter; the other intestines inflamed in patches; the lining membranes of the rumen, reticulum, maniplus, and abomasum inflamed throughout, and easily separated from the outer ones; the leaves of the maniplus also diseased. I found large quantities of broken pieces of burnt clay mixed with the food, from the size of a pin's head to that of a pea; in some of the cells of the honeycomb there was an accumulation of minute particles of half masticated brick, mixed with black liquid matter, similar to that found in the duodenum; the inflammation in the stomach was caused by this extraneous matter, and thence extended to the intestines. It has since been ascertained that the cow, with others, had been in the habit of chewing and swallowing broken draining pipes, which were lying under the hedge in the field where they were depastured.

FRACTURE OF THE ILIUM; RUPTURE OF INTERNAL PARTS, &c.

By the Same.

Aug. 1, 1854.—Was requested to make a *post-mortem* examination of a two years old cart-mare, that fell down in the blacksmith's forge, being there to be shod. The smith heard a noise when he was at his anvil, looked round, and saw

the mare lying down and struggling; he assisted her up, when she broke out into a profuse perspiration; he shod her, and when she was going home, two miles from the forge, she fell down and died three hours after the accident.

Appearances.—Fracture obliquely and entirely through the ilium, between the posterior spinous process and ischium; rupture of the vagina, and uterus, in which organs were entangled the intestines; rupture of the posterior vena cava, anteriorly to the pelvis; pelvis and abdomen contained large quantities of blood in a fluid and congested state. Hemorrhage was the immediate cause of death.

I saw a half-bred filly, twelve months of age, which reared up, fall backwards, and fractured the ilium, to what extent I am unable to say; she could not get up when down, for a long time, without assistance; she can now gallop about, although slightly lame.

CASES OF IRREGULAR STRANGLES.

By Mr. Barlow, Edinburgh Veterinary College.

Case 1. A bay mare, 4 years old off, standing 15 hands 3 inches, and shewing considerable breeding, was purchased at Durham in the month of March, 1854, by Lieut.-Col. Teesdale, for the Royal Artillery service, Leith Fort. On examining her at that time I considered her sound. In the beginning of April last, she became affected with catarrh and laryngitis, but speedily recovered, without showing further premonitory signs of strangles. About the middle of May, strangles was very prevalent in the Fort stables: this mare then showed precursory catarrhal signs of the disease, and the space between the sides of the lower maxilla became somewhat filled. These appearances, however, subsided without the formation of any external abscess; but from this time she declined in condition, showed an unhealthy coat, seldom lay down, and did not feed well.

Owing to these circumstances, my attention was directed to her, in the beginning of June. She was then exceedingly thin, had an eczematous eruption under the belly, inside the thighs, and from both hocks to the feet downwards. Her appetite was very capricious, bowels torpid, and urine scanty. The respiration was 10; pulse 26, and occasionally 30 to 35 in a minute, for it was very intermittent as well as irregular.

The heart would beat for five or six times successively; then followed an interval of two, three, and sometimes even four seconds without any cardiac or arterial pulse being felt. The first pulsations succeeding this pause were always the strongest and nearest together, the next three or four beats became gradually weaker and slower, until succeeded by the period of pause or repose. On carefully examining the heart by means of the stethoscope, I could not detect an abnormal murmur accompanying either of the two cardiac sounds, nor could I feel satisfied that any structural disease existed in the walls of the heart itself. When the mare was taken out and exercised sharply, the second sound became inaudible until respiration fell to near its usual standard. This peculiarity, however, I have before noticed in cases where the lungs were congested in consequence of active exercise, or during the earlier stages of actual pulmonary disease. Repeated examination of this case led me to conclude, that these peculiarities of cardiac action were due to functional and not organic derangement.

The above symptoms continued, with little change, during the whole of June, except that towards the end of the month, a deep hoarse cough came on and rapidly increased in severity. The mare was tempted with various kinds of good food, but she took little. Mineral and vegetable tonics combined, were the only drugs administered. On July 2d, she became choked while swallowing some green food. A severe paroxysm of coughing came on at the same time; at last she ejected great quantities of chewed clover and mucus from the nose. Gradual relief followed. I saw her two hours after she had become quiet. She durst not eat again, and a small quantity of water was poured down the throat; it could be felt passing in "gulps," down the cervical part of the œsophagus. On lowering her head, however, the fluid returned, and was felt to come from within the chest. This denoted obstruction in the thoracic cavity. There was very great jugular venous regurgitation, the second cardiac sound was very imperfect, but neither replaced nor accompanied by any murmur. Believing that the choking depended on some tumour or abscess in the antero-superior mediastinum, no probang was used. On relating this case to Professor Dick, he at once called to recollection other cases presenting these symptoms, where secondary abscesses, attendant on irregular strangles, were found in the chest after death. It was therefore decided merely to give the mare gruel and bran water. All food was withheld.

During the succeeding week, the cough became of an in-

tensely irritating and suffocating character; the mare became almost unable to drink; the pulse was exceedingly weak, and more irregular than ever. When the farrier occasionally gave gruel by the mouth, dangerous paroxysms of dyspnœa, followed by coughing, were induced.

Having to leave town for three days, I commissioned some of the students attending my summer class to watch the case, and directed the throat and breast to be continually fomented with very hot water. I confess, too, that sundry directions were given regarding a careful record of *post-mortem* appearances, for the chance of recovery seemed almost hopeless.

On my return, however, I heard that, on the 12th July, and, according to the farrier's hyperbolical account, she had "vomited a half pailful of matter." On the 13th, I certainly found matter actually and copiously running from both nostrils. Since that time, she gradually improved in appearance, as she became able to eat. Her appetite is now (Aug. 8th) unreasonably great. She lies down, has no cough, and, with one exception, seems well. This exception is the pulse; *it* is still irregular and intermittent, but nothing to compare with what it has been. I incline to think, that this abscess existed in the superior thoracic mediastinum, but will not pretend to explain or even conjecture, how its contents gained the œsophagus, and why the matter came upwards.

Case 2.—A chestnut mare, 15 hands 2 inches high, strongly made in proportion, and not showing much breeding, was purchased at Rutherden fair, on the 6th May last, by Lieut.-Col. Teesdale, for the Royal Artillery Service. She was examined by me, considered "sound," and delivered at Leith Fort the following day. Nothing unusual was remarked concerning her for ten days afterwards, except that she did not eat the bran, upon which young horses are usually fed, for some days after being purchased.

May 20th.—For a few days past, she has had the prevailing catarrhal epizootic, but has wasted in condition far more than other horses affected by the same disease; feeds sparingly, and is now showing premonitory symptoms of "*Strangles.*"

By the 27th, the sublingual lymphatic glands had suppurated very sparingly, but the swelling was greatly subsided, and except for growing thinner every day, she seemed to be getting well rid of the disease. The appetite was not worse than in many horses at apparently the same stage of recovery.

June 1st.—Renewed swelling has been noticed for two

days past in the same glands. Right parotid region also enlarged; matter comes from the nose; cough is present; appetite cannot be gratified, in consequence of soreness of throat.

7th.—Sublingual glands have suppurated freely during the week; the parotideal swelling has receded; the channel of the right jugular vein is swollen along the whole neck, and several hard, painful, knotty tumours, about the size of hazel nuts can be plainly felt below, and rather inside the vein. This swelling is continuous with a diffused tumour, situated between the right shoulder, and sternal cariniform cartilage. To be allowed as much good food as she can take; water, hot as can be borne, to be applied to the swollen and suppurating parts by means of woollen cloths.

9th.—Right parotid region again enlarged; discharge under the jaw nearly ceased; swelling has not subsided in proportion. The farrier had opened three small abscesses in the course of the jugular channel before my visit. Swelling at the breast harder and more prominent, and evidently owing to enlarged lymphatic glands under the inner margin of levator humeri muscle. Patient is dull; pulse 60, and sharp in tone, respirations 19; appetite bad. Very hot fermentations to be constantly applied to all the swollen parts; green meat to be offered by hand in mouthfuls.

11th.—Right parotideal swelling large as a small cocoa nut, but exceedingly tense and hard. Sublingual glands again more tumefied; pectoral swelling has suddenly extended to, and now involves, left side almost as much as the right, it projects beyond cariniform cartilage about the size of a large gourd, does not present any softening or fluctuation. There is some difficulty in breathing and swallowing. Fomentations to be constantly applied at the highest temperature short of scalding.

12th.—An incision two inches long was made through the skin, fascia, and thin muscle covering the parotideal swelling; the right fore finger was then forced through the remaining and still thick outer wall of the sac into the abscess; eight ounces at least of pus came away in a stream so forcible as to fly about four yards when the finger was withdrawn. The pectoral abscess was opened in the same way; it required, however, the whole length of my finger to reach the sac, as it lay within a thick covering of muscular and cellular (areolar) tissue. Great relief was afforded by these evacuations, and the patient soon took a good quantity of scalded bran and oats. Hot bathing to be continued. Green and other good food to be allowed as she will eat it.

14th.—Sublingual glands again pointing, and were opened. Pectoral and parotideal swellings have greatly subsided, but pus comes freely from incisions made on the 12th. The mare cannot feed in consequence of becoming choked when attempting to swallow; the food when chewed and passed into the pharynx returns through the nose, and is ejected with large quantities of frothy mucus; there is also some difficulty in breathing. Fomentations continued; head to be steamed frequently.

15th.—Pectoral and parotideal swellings subsiding, pus comes freely from the incisions. There is increased difficulty of breathing. Treatment continued.

16th.—Every thing looks well, except the breathing; this has become painfully difficult; the mare has evidently an appetite which she cannot gratify.

7 P. M.—A loud noise accompanying inspiration and expiration can be plainly heard at 30 yards' distance. A continuous and sometimes large stream of frothy mucus comes from the nostrils; the head is extended, and the hot steam seems grateful. The hand introduced into the pharynx can plainly detect that something projects upon, and diminishes the cavity from behind; the laryngeal arytænoid cartilages, and to a less extent the whole larynx, are evidently pressed forward and downward in consequence; externally, nothing can be detected amiss. An abscess is probably forming in the posterior pharyngeal wall, or Eustachian sac; still no place can be found where it would be advisable to make an incision sufficiently deep to evacuate the matter. Very hot water cloths to be applied to both parotideal regions; head and nostrils to be steamed.

17th.—This morning she got down, and roared so loudly in breathing, that a sentinel on duty forty yards off could hear the noise.

External examination cannot detect any swelling projecting outwardly; it seems apparently easy to produce suffocation by pressing the larynx from below upwards. Severe paroxysms of oppressive dyspnœa come on when attempts are made to pass the hand into the pharynx, so that internal inspection was not accomplished.

As the suffering was so extreme, as suffocation might result from allowing things to remain as they were, and as no sign was present to indicate that the abscess (if such existed) was ready to burst, I decided to open the windpipe. An incision commencing six inches below the larynx was extended for four inches along the anterior median line of the throat, and carried sufficiently deep to reach the trachea.

After freely exposing its anterior surface to the requisite extent, a circular piece of about one inch in diameter was removed from that part of the windpipe, corresponding to the central portion of the first incision. In the opening thus made the tracheotomy tube was placed and secured; immediate relief was afforded when the windpipe was opened. After the operation was concluded, the mare seemed disposed, but not able, to eat; she was ordered to have gruel or bran water to drink, no other food of any kind to be given for fear of choking.

19th.—Has drunk pretty well since the operation, and is looking much better than before. On taking out the tube, in order to clean it, the integuments, for the sake of experiment, were pressed together over the wound, and difficulty of breathing speedily returned. Plenty of good thick gruel to be allowed, for she drinks this in fair quantity; food cannot be swallowed readily.

20th.—A great quantity of matter came from the nose and mouth to-day, and must be the contents of an abscess.

From the 21st she became daily better able to eat. The appetite was positively voracious a week after the operation. At this time the tube was removed, the wound was dressed, and allowed to heal up. The discharge of matter from the nose continued more or less for about ten days, but the discharge from the breast continued until the 16th of July.

At this time July 19th, the mare is perfectly well, and has regained her condition wonderfully, all the wounds (including that made into the windpipe), are closed; she has not any cough, does not show any sign of "*roaring*" or other defect in wind, and is ready for work.

Remarks. This case presents several peculiarities:

1. The suppurative action extended to the unusually long period of an entire month.

2. Some of the abscesses were recurrent, and formed three consecutive times in the sublingual lymphatic glands.

3. Others, and by far the largest of the abscesses, occurred in more unusual situations; viz., under the parotid salivary gland, along the right jugular channel, and in front of the chest.

4. Another abscess formed in a situation not accurately ascertained, but in such a locality as to induce danger of suffocation; this rendered tracheotomy necessary, in order to preserve life until the sac opened naturally, and its contents escaped through the nose and mouth.

I am aware that some practitioners think it of little importance whether strangles be accompanied by copious, or

by sparing suppuration. Others, again, do not consider it essential that all cases of the "*strangles fever*" should end in suppuration. Without wishing to insinuate the incorrectness or imperfection of these views, I must confess that, in our practice, those cases of strangles seem to do best, where the phlegmonous tumour follows the catarrhal stage most closely, increases rapidly in size, and suppurates freely in three, four, or five days. When the tumour recedes during its phlegmonous stage, or abruptly ceases to suppurate soon after being opened, secondary consequences of an uncertain, and sometimes fatal character, are apt to ensue. Among such untoward events are abscesses in the brain, mediastinum, lungs, mesentery, liver, and pelvis; and arthritis, affecting the large joints particularly. My friend Mr. Hallen, V.S., now at the Cavalry Depôt, Canterbury, informs me that he has recently had several cases of irregular strangles, where abscesses formed around the anus and rectum. The last fatal case of strangles which I had the opportunity of dissecting, occurred during last session in a troop colt belonging to the 7th, Q. O. Hussars. My friend Mr. Philips, V.S., to the regiment, desired me to see the animal shortly before its death. There was enormous tumefaction of the whole head; erysipelatous inflammation existed inside and outside the lips and over the face; the head was so heavy, that the patient rested it upon the manger or against the wall. Suppuration had been transient and imperfect. On dissection, I found extensive phlebitis in the facial, temporal, and submaxillary veins; a grayish, slightly tenacious fluid, ascertained by the microscope to contain globules in every way resembling those of pus, was mixed in streaks with the semi-coagulated blood which these veins contained; all the lymphatic glands of the head, and the submaxillary salivary glands, were enlarged and infiltrated with a brownish liquid of offensive odour, consisting apparently of decomposing blood and pus.

In the treatment of ordinary cases of strangles, we require to do nothing but feed the patient well (on green food if possible), encourage suppuration between the jaws, and open the abscesses when the skin has become well thinned over distinctly fluctuating matter. In order to *encourage suppuration*, some practitioners apply blisters, others hot fermentations. Perhaps blisters are used most extensively of the two, and they are considered generally useful. From very considerable observation, however, and speaking from careful records of time occupied in the formation of matter, in cases where they *were*, and *were not* employed, I cannot confirm the

opinion, that they "hasten suppuration" in strangles. Theoretically speaking, something may be urged in their favour; but we must not forget that matter will not form locally, unless the proper stage of constitutional fever have been attained. The local abscess depends upon, and is associated with co-existing states of the system. Strangles, in fact, seems to be an exanthematous disease, and betrays, accordingly, its periods of accession, crisis, and decline. The formation of "healthy pus," too, is a process of regular organic growth. Pus cells, and their *liquor puris*, are not dependent on the mere intensity or rapidity of inflammation for proper development; for in a regularly advancing phlegmonous tumour under the management of nature herself, and owing its increase to peculiar states and resources of the system, matter will form as well, and perhaps as rapidly, as when a blister is applied over the expected seat of suppuration. We have, indeed, seen not a few cases in which the tumour receded after being blistered. The artificial irritant was too foreign or too severe to effect its desired purpose.

When the tumour advances steadily and naturally, a healthy suppuration and subsequent cure are almost always uniform, and certain results, provided the patient be judiciously nursed and well supported; here, then, it is difficult to find an imperfection on the part of nature which any blister can obviate. On the other hand, when the tumour succeeds the catarrhal symptoms unusually late, or advances slowly and imperfectly, and the patient wastes rapidly, instead of feeding, I do not think that any topical application can "*hasten suppuration*" as well as very hot water cloths properly attached over the swelling, and continually kept at a temperature many degrees higher than the body. Hot water dressing is grateful, does not irritate, favours exudation, is easily applied, and (unlike a filthy blister) is easily removed; so that we can feel the tumour as often as we please without inflicting pain. I have generally noticed that the tumour suppurates most freely and speedily when the patient drinks or eats tolerably well. One now and then meets with cases where a blister is applied almost every day in order to "hasten the abscess," instead of doing which it prevents feeding, induces weakness, and defeats its intended end. On bathing the part for a few hours, external soreness is removed, and the patient often inclines to eat. In point of fact, the moving jaws, external heat with moisture, and increasing strength combined, do truly "hasten suppuration."

INDIAN VETERINARY DEPARTMENT.

To the Editor of 'The Veterinarian.'

Dear Sir,—As a Veterinary Surgeon in the H.E.I.C. service, I beg to record my thanks to you and Mr. Western for your exposition of the manifest want we labour under here of some head to our profession. On our entrée into the service we are admitted in orders to the "Veterinary Department," a department which verily has been made neither head nor tail of. The prejudice which such a crude state of things must entail both on the interest of the service, and on the character and standing of our profession at large, is but too apparent to need dwelling on. Your own sound remarks on the subject in your leader of October last, and the evidence of our worthy and talented friend Western, are conclusive on the point. Though I lack faith in the hope of our honorable masters even deigning to give ear or consideration to a subject, which, in our opinion, is one affecting in no small degree the interest of their service, I still must recognise and appreciate your adverting to the matter, as a becoming duty in the editor of our only professional organ, and our first and respected authority on all subjects connected with the best interests of the profession.

For your information, I must tell you that all matters connected with the mounted branches of the service—that is as far as the horse is concerned—are at a sadly low ebb. The breeding and rearing of the remount is in incompetent hands, and the produce consequently of the worst and most degenerate description. The after management and hygiène of the troop horse is shackled by orders too much dictated by prejudice, without reference to authority or reason. These facts, however, have often before been brought forward without claiming the least attention. The character and degeneracy of the stud-bred horse have been officially reported on by one of the most experienced and best informed of our profession out here, as you will see by a reference to the letter of Mr. Hurford of H.M. 9th Lancers, in the *Veterinarian*, No. 59, for November 1852. The mismanaged stable practice is sufficiently shown, in Mr. Western's letter, in your March number. The system of watering after feeding, as laid down by standing orders, prevails here as well as in the Madras presidency.

Now I cannot help hoping and thinking, that had our department out here possessed a fitting head, that such things would never have come to pass. We should have had

the breeding and rearing of the colt intrusted to, or directed by, a department, the members of which embrace, in their professional education, the physiology and principles of such knowledge; and not transferred to the necessarily superficial and amateur knowledge of officers in the army, principally in the Infantry branch, who must have entered the service at an age which precluded even any chance of their having enjoyed the smallest observation, knowledge, or experience of anything in the way of horseflesh, beyond, perhaps, the pony mount, at their periodical holidays. Mr. Hodgson's letter, in your March number, shows that this extraordinary transfer of duties took place on the death of Mr. Moorecroft, and well may Mr. Hodgson remark on the subject. "If the knowledge of breeding, rearing and management of horses in health and disease, rendered veterinary surgeons of equal rank, ineligible, why should the pretensions to such knowledge render other officers eligible, not only to promotion, but also to officiate as veterinary surgeons? It would indeed be difficult to answer these questions." The part which the veterinary surgeon attached to the stud now has to play, is, in my opinion, both humiliating to himself and derogatory to the character of his profession. His services which, I would fain hope, might and ought to be so eminently useful in a breeding establishment, are strictly confined to his hospital for the sick and lame. His opinion and professional responsibility is never called for, or made use of, in the selection and adaption of sire or dam; and the breeding seems to be more a system of promiscuous intercourse, than the exercise of judgment and knowledge of the laws which obtain in animal reproduction.

A principal veterinary surgeon, would, I trust, feel it his duty to the government he serves to assert the duties and usefulness of his profession, in such an all important department as the studs. And would of course make such suggestions for the general management and treatment of the horses with the army, as would be conducive to the exigencies and benefit of the service. We should then not be subjected to circulars from head-quarters, detailing, for our information, the empirical ideas of any amateur on bursauttee or other disease. What would the members of the medical profession say to receiving, for their information, the treatment of Captain Anybody for fever and ague? The only *information* that was elicited by the bursauttee correspondence, which was not ridiculous, was a fact stated by Captain Apperley, in reply to Mr. Page's letter in the Lahore Chronicle, viz.: "that he had no ill will or antagonism to veterinary surgeons, for that

he had not seen one for a space of two years, though he had no less than (I think he said) from 1000 to 1500 young horses under his charge at the Poosa stud! This I think you will allow is another very strong fact in favour of the benefit that would accrue to government, from the appointment of some head to the veterinary department. Here am I and others in charge of some 300 seasoned horses, which only require casual and ordinary treatment, while 1000 young animals, at an age then incidental to disease, and having to pass through all their infantile changes and distempers, are left to the tender mercies and veterinary knowledge of the amateur, whose ideas on pathology have already been shown you by Messrs. Western and Page. I could add much more to prove to you how damaging to the interests and reputation of our profession out here, and also to the interests of the government we serve, is this want of a chief to our department. I have no hesitation in stating my conviction that this want of a guiding hand in the horse interests of this service is replete with much loss and inefficiency. The present stud-bred horse is deteriorating yearly; a horseman has only to walk down the ranks of the horses under my charge, to mark the manifest falling off from the old horse to the late remount. The efficiency of the service must suffer on a campaign, and even in ordinary wear and tear, and the cost of the remount is such—from the promiscuous system of breeding producing so many worthless animals to one which is deemed fit for the service, and which one consequently has to bear the expenses of those rejected as useless—that the Honorable Company's Cavalry and Artillery horse is certainly the dearest, if not the worst, in the world. Under judicious management, I see no reason why this country should not produce as cheap and as fine a horse as can be bred anywhere. There exists here many elements of success, if not excellence. We have fine blood, cheap and good grain, and a climate, in parts, well adapted for horses. We know that the horse owns an eastern origin, and is, I believe, less affected by a dry heat than any other animal.

You will be surprised to hear that what is called the central stud consists of no less than four depôts, each containing from 500 to 1000 colts and fillies, that these depôts are from 25 to 100 miles apart. The Poosa establishment being 100 miles from the head quarter depôt. And that one veterinary surgeon is allowed for the central stud, with its four depôts, as well as for the care of the valuable stallions which are located in the district, spreading over a circuit of some 150 miles! How such duties are to be got through

with satisfaction to this veterinary surgeon, and advantage to the interests of the service, I leave you, Mr. Editor, to judge. —Periodical visits to the more remote is all that can be attempted, and those few and far between. The only excuse or mode of accounting for such grudging or mal-distribution of labour may be found in the fact of all appointments to the studs being considered staff appointments, involving a little patronage and interest, and a little additional pay. Now, if any head existed to our department, this glaring inconsistency would of course never have occurred; these studs would have been his especial professional province, if not his head quarters. Here all young hands recently admitted to the veterinary department should pass their probation and trial. Here they would find lots of work to employ their time, and become acquainted with the practice and diseases of the country. Here the principal veterinary surgeon would become acquainted with them: and here they would leave a useful register of their talents, and likely usefulness. A record which the head of a department should possess of those composing his staff or charge.

If the present chaos in the state of our profession in the H.E.I.C.'s service should ever be duly laid before, and duly weighed by, our honorable masters, then the appointment of a head, and the subsequent remodelling of our department might be an easy task and soon accomplished. Seniority of service would of course have its claims, and here, as also in every other requisite, Mr. Western, of the Madras Presidency, would stand preeminent. He has passed some 28 years in the service, and I am sure you, and every one else will allow, with much benefit to the government he serves, as well as to our profession generally. Mr. Western's many discoveries and experiments of different medicinal agents and remedies, and his liberal and free contributions to science, and the advance of veterinary knowledge, entitle him to the respect and thanks of the profession at large. His knowledge of this country and service, his peculiar observation and judgment, and his happy tact in practice, added to his great energy of habit and thought, peculiarly fit him for taking the initiative in any reform or remodelling of the veterinary department of the H.E.I.C.'s service. But whether Mr. Western would himself consent to fill for the first time the consequently onerous post of principal veterinary surgeon, is another question. All we could expect or hope would be for him to put the appointment in train, for we must not hope or wish to prolong for an indefinite time, Mr. Western's already protracted service in this wearing climate. But before leaving

the country and service in which he has already done so much in his capacity as a veterinary surgeon, he might perhaps be induced to finish his career by putting us on a more satisfactory footing to ourselves, and a more useful one to our government. In our present unrepresented and isolated condition, we can do little to advance our professional interests or our usefulness to the service we belong to, we can only do our best under the circumstances we are placed in. And I am afraid the position of most of us is but too much like the ambiguous one of a certain plethoric parochial functionary, who, on being asked by a committee of the reform movement to explain what constituted his duties, replied, "I fills my situation, and I draws my pay."

Having already, I fear, entered at too great a length into our peculiar affairs and position in this country, I will turn to a subject likely to be more interesting to us as a body. Several interesting articles have appeared from time to time from Mr. Hodgson and others on the diseases peculiar to horse-flesh in this country. The one known as bursauttee has come in —if not for its pathological description—at any rate for its treatment. You will, I am sure, agree with me in thinking that we should have a pathological classification and definition of any disease before the treatment can be understood or subscribed to: without this all is empirical. The disease known here as bursauttee consists, primarily, of eruption and desquamation of the cuticle, followed by ulceration, always spreading, and mostly phagedenic. Extremities and parts furthest removed from the centre of circulation, such as the commissures of the lips, fetlocks, glans penis, &c., are the parts generally involved, though occasionally it is found pervading the body. The time of its development is generally the autumnal season, when we all know many predisposing causes exist to bring about laxity and debility of both the circulation and the skin. The autumnal preparation for moulting, or acquiring the winter coat, is everywhere attended by its debilitating effects; and the system generally has been relaxed and taxed by the heat and waste of summer. Here, especially, the skin is taxed and debilitated to the utmost. We bipeds are but too fully aware of such a state of things. Never could I have dreamed of the full extent of the excretory powers of the skin which I have experienced in this country. Well may an old Indian be said to be dried up at last! Now the horse's skin having been so severely taxed and relaxed through the summer, and the system debilitated, then comes the further febrile and debilitating process attending his moulting; the rains now setting

in, and the moist atmosphere and sudden cold acting on these predisposing causes, must check the hitherto existing exhalation from the skin, and tend to produce congestion of the superficial and capillary vessels. The circulation and absorbents being too weak to overcome and remove such congestion, the eruption and desquamation of the cuticle is the consequence. The debile state of the circulation is always indicated in your bursauttee patient, by the character and want of tone in the pulse; and the state that government horses are maintained in—always short of work, or indeed, common exercise—contributes to produce this tardy and weak circulation and tonicity. If, now, the proper indications are not followed, and strong physic, hospital rest, and diet, are enjoined, I can easily understand the spreading and sloughing nature of the ulceration, and the great loss of structure referred to by Mr. Page and others. I quite agree with Mr. Western in his idea, that the virulency of cases we hear of is much enhanced by mistaken management at the time of attack.

The foregoing being my rationale of the pathology of the disease and its effects, and having found my bursauttee patient always evincing want of tone, and a system below par, the treatment which indicated itself was of course—after having given a dose of physic, to promote absorption and relieve, in some degree, the obstructed system—to endeavour by all rational means to invigorate and restore the tone and circulation. For this purpose, I administered mineral and vegetable tonics; generally sulphate of iron and gentian in combination, and by a judicious system of food and exercise, promoted appetite, assimilation, and circulation. Topically, to the ulcerated integument I applied the ordinary principles of surgery, according, of course, to the nature and state of the ulcer: and here I must remark, that ulceration, assuming as it does so many different states and stages, no uniform application or treatment can be laid down. At times, antiseptics are necessary; at others, escharotics and astringents; and lastly, stimulants; always, of course, preserving most scrupulous cleanliness. I have found much good effect from the use of chloride of lime, under the first class of applications, viz., antiseptics; and Mr. Hely, of the 7th Cavalry, now in the station, I find has also been very successful with this agent. The drying effects of the chlorine staying the ulcerative exudation, and circumscribing the ulcer. I have never, myself, had recourse to the actual cautery, but under such sound authority as Mr. Western's, I should not hesitate to resort to it in cases of need and appli-

cability. Its stimulating effects must surpass any other application. This disease is evidently, as Mr. Western remarks, essentially a disease of debility, and owns a constitutional origin. Under these circumstances, I do not look upon it as in any way contagious by flies or other means. You must have the constitutional local causes to produce the local effects. Much nonsense has been written and handed down, about the recurrence and virulence of the disease. Of course, where the exciting cause—the continued humid atmosphere—most prevails, as in low districts, there the disease will preponderate, and of course the animal whose laxity of constitution predisposed him one year, will be more prone, from such causes, to future attack on the recurrence of the exciting cause; and, *à fortiori*, old and debilitated animals will suffer more than young ones. I have had some bad cases in hand, both down country and up here, and I have found the disease yield to the indicated treatment. I have also seen many bad cases arrested in quick time, in Calcutta, under the decisive and happy tact and treatment of Mr. Western.

We have another disease here, which, as yet, I have not seen touched upon by any of your correspondents. It is one of much interest, and affords scope for much pathological inquiry and discussion. The disease is an epidemic, and from having first made its appearance, or come under notice at the station of Loodianah, is known commonly as the Loodianah disease.

In the autumn of 1851, I was ordered up in all haste to a troop of Horse Artillery, at Loodianah, among the horses of which this disease had broken out, carrying off about twenty in the space of a week or so. I was anxious, of course, to obtain from my professional brethren, of longer standing in the service, some pathological account of this epidemic, or rather endemic, as it was supposed to be confined to only certain confines or parts of India. On my way up country, therefore, I sought the views and opinions of others on the subject, and was shown a copy of a Report or Reports on this disease, which had emanated from the Adjutant-General's office. And here was indeed, most markedly, a proof of the want of a head, or what Mr. Western very justly styles a focal point, from which the recurrent spring of accumulated information should flow. A report and opinion was called for by the Adjutant-General's office on this disease, from certain veterinary surgeons in the Upper Provinces, who might have been supposed to have seen the disease in question. The answering a letter, or writing to order, on such a subject, to an unprofessional quarter, you may imagine

could not assume the form and style of a professional report to a professional chief; and wide and varied were these answers and views. The majority, however, seemed to view the disease as a highly inflammatory and fatal one, and generally characterised by such effusion about the throat and neck, as to produce asphyxia, and call for the use of the tracheotomy tube; and antiphlogistics, pushed to an extreme, was the prevailing treatment recommended—though one or two gentlemen candidly owned that the depletion seemed not to be attended with any success. On my arrival at Loodianah, the disease had disappeared, with the eccentricity of violent epidemics, and I found no case to investigate or report upon. But the surgeon to the troop, a gentleman of high intelligence and medical acumen, had made *post-mortem* examinations of the horses carried off, and informed me, that general congestion, but particularly of the lungs, seemed the prevailing appearance and cause of death.

Some months after the removal of the troop from Loodianah to this station, I was one morning summoned to my hospital lines by a report of no less than four horses being seized with colic and spasm. On my reaching the lines, in a few minutes, one was already dead, and presented the remarkable effusion about the throat, not unlike the poke in sheep with rot. The others were showing abdominal spasm, attended with much irritability and general depression; the pulse thready, and scarcely perceptible. One case, in fact, gave evidence of complete syncope and collapse. Finding I had now got hold of the Loodianah disease at last, I resorted to the generally prescribed treatment (in such cases as gave the least warrant), but I found on bleeding, the pulse not to rise on the flow, and that there existed, in fact, no toleration for blood-letting. To the case indicating so much prostration and collapse, I administered ʒiij of Ammoniæ Carbonas, but could only excite slight and transient reaction. At my *post-mortem* examinations, I obtained the kind attendance and opinion of the surgeon of the troop, who had made the examinations before referred to at Loodianah; and we came to the conclusion, that the disease was one of acute congestion, and presented much the appearances of death from cholera in the human subject.

A peculiar atmospherical poison seems to act on the blood, causing congestion of all organs and glands, and disintegrating the blood into its constituents, and rendering it of such spissitude, as to be incapable of carrying on the vital principle. The cause of death is clearly by necræmia, or death of the blood. This is shown by the remarkable infil-

tration of the serum and coagulable lymph into the cellular and serous tissues, and by the singularly large claret-coloured patches of ecchymoses found everywhere, especially in the proximity of the larger vessels, and also by the distended state and peculiar dark blue colour of the venous system generally, even pervading the superficial veins of the integument. The congested and heaped up blood found in the lungs (the right especially), in the heart, and all the glands, and vena cava, is pitchy black, and does not redden when exposed to the air. Frequent autopsy all presented the same leading characteristics; and the fatal cases mostly terminated in from two to six hours from attack. The epidemic is, in my opinion, a veritable equine cholera; and in some of its appearances and symptoms seems to bear a resemblance to the epidemics treated of by French authors, such as Charbon or Charbonneuse. I must refrain from further detail of the description and symptoms of this disease, which, from its interest in my eyes, may, I fear, lead me into writing something as long as an essay on the subject. I will only add that, from such investigation into the apparent cause of the disease, and from my views of the same, I invariably had recourse, on the first marked symptoms of the disease, to a stimulant. Giving the Carbonate of Ammonia in 43 balls, and following this by a diffusible stimulant, in a maximum draught of the Liquor Ammoniæ Acetatis, and Nitric Spirit of Æther. When a reaction had been produced by the two medicaments—which generally was much marked—I abstracted a small quantity, say four quarts, of blood, to create a vacuum and free the circulation; when, if the attack was not too acute, and the shock to the nervous system too decided, all the urgent and dangerous symptoms ceased, and all that remained was the consequent weakness and prostration; and all that was indicated to be accomplished in the way of treatment was, on the following day, to evacuate, by gentle purgatives, the morbific effects, or materia morbi, from the system, and to restore the natural secretions. Where material weakness remained on the following day, I preferred, by repeated draughts of the Nitric Spirit of Æther, to produce diuretic and diaphoretic action, instead, or in preference to, working on the bowels. And this treatment, I am happy to say, has been attended with much and marked success in my practice. In conclusion, I must again add, that this disease, like all epidemics, presents different types and symptoms at different seasons, and perhaps under different circumstances. The external effusion was at some times most marked, and the infiltration into the throat and

neck more predominant, with the copious discharges from the nostrils and mouth of the yellow jelly-like lymph; and here, I imagine, nature had force sufficient to contend with the disease, and the vessels had relieved themselves by such extravasation and effusion; and these cases were always most easily dealt with, and rarely, I may say, ended fatally, by keeping in view, in treatment, the cause, and also attending to the local and topical indications. The malignant, and too often fatal, form, is that in which the general congestion and shock to the system is such, that the vis medicatrix naturæ has not power enough to cope with the disease; these cases are sometimes fatal as early as in from an hour to two from the commencement of the attack.

The peculiar pathological character of this epidemic, and its great fatality, have invested it with much interest in my eyes, and I could enlarge much on its symptoms and peculiarities, were I not afraid of having already run to an unpardonable length in this letter. If, at any future time, you should assure me that I have not taxed your time and patience beyond bounds, and you have not set me down as too prolix a correspondent, I shall be too happy to add further particulars from my case-book, should this disease possess any of the interest in your eyes which it does in mine.

I am, my dear Sir,
With much respect and regard,
Yours very truly,
VINCENT NELSON, V.S., H.E.I.C.S.

*** Full of interest as this disease must be to an Indian V.S., it possesses many novel and strange features to us, concerning which we hope Mr. Nelson will one day enlighten us again out of his Case Book.—ED. VET.

ON DISEASES OF THE UDDER AND TEATS IN COWS.

By Mr. W. A. CARTWRIGHT, M.R.C.V.S, Whitchurch, Salop.

CASE 1.—*Obstruction in a Cow's Teat.*—In 1831 I was called in to attend a cow, the property of Mr. Tudman, of Yoking's Gate, near this town, that had calved a week ago, and had borne two calves before. There was an obstruction up one of the teats, and the udder was very much distended with milk. I merely introduced a knitting needle up it for

about two inches, and broke down two different pieces of coagulum or membrane that crossed it, and the milk could be immediately drawn off, and she did well without any further trouble.

CASE 2.—*Injury to a Cow's Teat.*—17th Sept., 1845. Mr. Garratt, timber merchant, of this town, had a cow that had just met with an injury to one of her teats, in having a little of the end of it cut off slantwise. Although we fomented the parts, bled her, and repeatedly passed the silver milk tube up it, yet she became "gargated," and lost her quarter.

When the teat is injured, we scarcely ever do any good. At first the milk becomes obstructed in the teat, and by the introduction of the tube, the teat, and ultimately the udder, becomes inflamed. Then scarcely any milk flows, and what comes is frequently bloody, but soon it entirely ceases. Now only some serum can be drawn out, and soon this ceases. Next, pus forms, and which comes out in clots, at others it is tolerably liquid; and if it cannot be well got out, the udder hardens in places, and abscesses form, and now the udder is completely destroyed for secreting milk, and she is completely "gargated."

In April, 1846, this same teat again became highly inflamed and swollen, and pus formed within it. I inserted caustic lints in its orifice, which was nearly closed up; a slough came out, and the pus discharged well. Abscesses afterwards formed in the udder, which (the abscesses) ultimately got well, but the udder became scirrhous.

CASE 3.—*Obstruction in a Cow's Teat.*—April 17, 1844. Was sent for to attend a cow that had calved yesterday; no milk could be got out of the anterior off teat. On examining it, I found that at about an inch and a half up it, there was a thickening for about half an inch in length of the lining membrane, and no doubt the sides of which were united, and the passage was completely obstructed. I first passed a probe, and *forced* it through, after which, I passed a silver tube up it, and then the milk ran freely and relieved the udder.

On the 18th and 19th, I introduced the tube pretty easily, and the milk ran through it readily, and I was in hopes that the tumour, a "thunk," as it is called about here, in the passage would become absorbed. Some of the milk could be drawn by the hand after the tube was removed.

20th.—I introduced the tube again, but no milk came out. The teat was sore, and from the orifice a little blood oozed out. To be left alone.

21st.—The teat and udder were much sorer, and the orifice was closed up and swollen, and a little blood oozed out. With

some little trouble, I again introduced the silver probe, and milk passed very fluently. I forgot to observe that this cow was bred by the owner, and that nothing had ever been amiss with her teat before, and she was well when she was loosed dry.

29th.—The milk has been got out very well, and the udder is very soft; but, from some cause or other, the teat is now a good deal diseased, as it is difficult to introduce the tube. Pus and serum are now within it. The tumour in the teat is as hard as ever, and the tube is obliged to be still forced through it. I fancy the teat has become inflamed from rubbing some Ung. Potas. Iodid. on it and the udder, and from another person forcing the tube up. This case I left off attending in consequence of other interference; abscesses formed, and she lost the quarter.

Case 4.—*Obstruction in a Cow's Teats.*—13th April, 1844. I was sent for to a cow that had been purchased at our fair on the 11th inst., that had got obstructions in two of her teats; she had calved two or three days before she was bought; no milk could be got out of the hinder teat on the off side, or any out of the anterior one on the near side; the obstruction was about half way up in each teat, and I could not pass even the silver probe through the off teat. I did so in the other, but could not, on account of the smallness of the orifice of the teats, introduce the silver tube into either of them. Both quarters took good ways, and nothing more was done but fomenting, drawing, and hand-rubbing the teats and udder, which became quite soft, and the milk flowed out well.

Case 5.—*Obstruction in a Cow's Teat.*—June 6th, 1843. Mr. Green, shoemaker, of this town, purchased a cow at our late fair, and at the time of purchase, her udder was freely distended with milk; at night she was milked, and it was found that from only three of the quarters could the milk be entirely drawn off. From the other he could only extract about half a tea-cupful, when it would cease, but in a short time the lower part would be filled again, and in the same way only a similar quantity could be obtained. The owner took her again on my pronouncing her unsound.

Observations.—The obstruction in this case lay at the upper part of the teat, and there must have been a stricture there, as there was only a small orifice to admit the milk through. I could not detect any thickening or tumour about the parts. Not near all the milk was obtained from the quarter, yet it was not coagulated.

Case 6.—*Obstruction at the ends of a Heifer's Teats.*—18th

March, 1845. I was called in to see a two-year-old heifer, belonging to Mr. Tomlinson, of the Chinnell. She was about a month off calving. At the *very end* of two of the teats there was a substance like a smooth wart hanging from them, and one was half an inch long, the other not so long. They were closely adherent, and closed up the orifices of the teats. As they did not look like the common wart, I plucked them away. When away, I found they left a concavity at the end of each teat, and the orifice of each teat was perfectly exposed, and the ends and whole of the teats were soft and natural.

The substances removed were similar in appearance to masses of gum arabic, and were formed of concentric layers on each other.

I am inclined to think that they were formed from a secretion on the inside or orifice of the teats, and as it oozed out, became a hardened mass. Ordered the teats to be occasionally well soaked in warm water to supple the parts, and to remove any fresh deposit.

Case 7.—*Tumour within the end of a Cow's Teat.*—20th March 1845.—Saw an aged cow of Mr. Groom's, surgeon, of this town, that when she was milked, the milk fled out of one of the teats in every direction, and it could scarcely be caught in the pail.

On examining it I found there was a small tumour, the size of a pea, within the teat at the very lower end. The milk was forced out with difficulty, and the person was almost half an hour in milking her. I am informed the cause was that she met with an injury to the lower end of the teat, which was cut off, and left this tumour. The teat certainly has the appearance as if it had been cut off, as it is flat at the end. On putting a silver tube up it the milk flowed freely. To be left alone, and get the milk out as well as they can.

Case 8.—*Fistulous Opening in a Cow's Teat from an Injury.*—8th April, 1846. Saw this day a cow belonging to Mr. Furber of the Warren House. He had bought her of Mr. Ray of Prees, and whilst in Mr. Ray's possession, she met with an injury to the hindermost teat on the right side, which left an opening in it the size of the natural one. It is situate about a quarter of an inch from the other, and there are evident marks of the teat having been torn or cut, as it is cicatrized over, leaving this small opening through which the milk is *constantly dribbling*. This quarter is less than the other, in consequence of running the milk out.

Treatment.—Touched the orifice with Argent. Nit., and left a tube to be introduced into the natural opening.

10th. There is a slight slough from the false orifice. Touched it with a heated knitting needle, and then passed a suture through its edges, and closed the opening. Ordered the milk to be drawn three or four times a day with the tube instead of the hand or calf.

12th.—I was informed that the suture had given way, and that the milk issued out as usual. The owner would not go to any more expense about it, so I discontinued my visits. If I had had her at my own house I have no doubt but what I could have cured it.

Case 9.—*Obstruction at the top of a Cow's Teat or in Udder.*—June 1st, 1847. A two-year-old heifer of Mr. Bradshaw's, of Highgate, in this town, calved two days ago. No milk can be got out of the posterior left quarter. On examining the teat, not the least obstruction or thickening can be felt in it, or at the lower part of the udder, other than from the ordinary swelling after calving. I introduced a probe quite up to the udder, but no milk came out on withdrawing it. Ordered to be well fomented and drawn.

7th.—A person has bought her, but no milk has yet been obtained from this quarter, and only a little watery discharge can now be drawn out. Quarter not much enlarged. She was again sold, and I lost sight of her. In this case I have no doubt but what the milk ducts were closed up by adhesive inflammation.

Case 10. *Wart at the end of a Heifer's Teat.*—On the 18th Oct., 1849, I was called in to attend a two-years old heifer that had calved three or four days before, belonging to Mr. Isaac Wragg, of the Feathers Inn, in this town, that had an obstruction in one of her teats.

It appears that she had had a wart at the end of the posterior off teat, and that a veterinary surgeon in this town had cut it off prior to calving. At present there is the remains of the wart, occupying the very end and centre of the teat where the milk comes out, and only the smallest point of a probe can be got into it, but no milk can be got out.

I thought the only plan was to slough it out, for which purpose I introduced a small portion of Hyd. Bichlor. for three consecutive days, having previously drawn the milk off with a sharp pointed teat tube.

In the course of six or seven days it sloughed off on the tube on withdrawing it, and then the milk came pretty freely away, and she did well without any further trouble.

Observations.—We are not unfrequently called in to attend cows when there are obstructions in their teats, and on handling them we discover small tumours of about the size

of a pea. They appear to occupy some part of the cavity of the teat, and as if they were formed within or on its lining membrane, and in some cases as if they were pedunculated, and slightly moveable. In other cases the *centre* of the tube, in various degrees, seems indurated and closed up, and has a corded feel; and in my neighbourhood, as I before stated, this obstruction goes by the name of being "thunked" (from like a thong, I fancy).

In the first instance the milk will sometimes gradually pass below the obstruction and accumulate in the lower part of the teat, but as soon as it is removed no more can be obtained until it accumulates again. Sometimes the obstruction is not so great, but what the milk can, with great difficulty and patience, be removed entirely from the udder, but in other cases it too frequently happens that the sides of the tube have united together, and completely obliterated the passage so as to admit the milk to pass, and of course the quarter will be useless, and the retention of the milk will very likely bring on mammitis.

Mr. W. C. Sibbald, veterinary surgeon, Biggleswade, in his Prize Essay, and inserted in the '*Journal of the Royal Agricultural Society*,' says that, "not unfrequently the flow of the milk through one or more of the teats is obstructed by a small moveable tumour or tumours, about the size of peas, descending into the passage. A small metallic probe should be passed up the teat, which will push them back into the udder, and they will often remain there without causing any further inconvenience." Now, in these cases, the tumours must have been greatly pedunculated to admit of their being forced into the udder, or they must have been lacteal calculi. I cannot say that I ever met with a case in point, but the observation is well worth our notice.

It is very extraordinary that in many of these diseases of the teats, the cows are perfectly well when they are "loosed dry" and the obstruction is only discovered after calving.

Now the point is, what is the cause of the disease? I have often thought that it is sometimes produced in the act of the animal lying down, the hoof pressing upon the teat, thus producing inflammation and effusion on the lining membrane. I have been induced to think so from having seen several cases where the teat has been actually cut, and I could not account for it in any other way, the hoof being at the time very hard, and its edges almost as sharp as a knife.

In many cases, most probably, it is produced by inflammation being set up in the parts in consequence of the retention of the milk on loosing them dry, but no matter what is the

cause, it frequently is a source of great annoyance, and sometimes of danger, when two or three of the teats are affected at once. The treatment in many of these cases is rather unsatisfactory, and it appears to me anything but advisable, as Mr. Sibbald recommends, to "cut down upon them, or slit open the teat, to effect their removal," for, as he justly observes, "there would be great fear to be apprehended of a fistulous opening being left, or obliteration of the duct taking place."

I have often thought whether it were possible to dilate the teat on the principle of Dr. Arnott's fluid-pressure dilator, in the same way as Professor Morton and Sir Benjamin Brodie have recommended it for the purpose of dilating the urethra, in the extraction of calculi; but here the great difficulty to be overcome would be in the dilatation of the *sphincter*, and I fear an insuperable one; however, it is well worth the trial, and I recommend it to the notice of Professor Simonds, and his ingenious coadjutor Professor Morton. If the sphincter could be dilated, then, I think, there would be no great difficulty in extracting the pea-like obstruction by some curved cutting forceps, and in every probability the constant accumulation of milk would keep the parts distended. When dilated, a slight stricture might even be divided higher up in the teat.

Some of the foregoing cases shew the imprudence of having recourse to the too often violent use of the silver milk tube, when by the introduction of a silver probe, and by fomentations and gentle manipulations, the concretion formed in the passage might be overcome.

There are veterinarians who recommend the external use of iodine in these case, but from my experience, I cannot say that I ever saw much good done by it, as the remedy is too slow in its action to be of any use in removing these, I may say, old and organised deposits. It would be no bad plan for farmers occasionally to examine into the state of the teats, for if such disease was found to exist, then the use of iodine might be of great service in the incipient state of disease. In other cases, by its use, and the necessary introduction of the milk tube, we too often produce inflammation of the teat, and which extends to the udder.

There are cases where the obstruction lies not in the teat, but in the mammary ducts. Some of these will get well by the antiphlogistic treatment; others there are of a permament nature. This is an important subject, and I hope it may draw other veterinary surgeons to the consideration of it.

LACERATION OF THE RECTUM FROM COITION.

By H. Arkcoll, M.R.C.V.S., Leek.

Dear Sir.—I send you the following curious case for the '*Veterinarian*.'

On Wednesday, the 5th of July, I was sent for to the Black's Head, in this town, to see a mare belonging to Mr. Warrington, of Endon, which the messenger said he had taken to the horse, and where she had been over-covered.

On arriving, I found the mare in a pitiable state, the perspiration pouring off her, the respiration much quickened, the abdomen enlarged, pulse 85, lying down, but not rolling, with a hopeless look about the eyes, which we often see when near the end of desperate cases. I immediately bled the mare to the extent of eight quarts, and gave her an anodyne, Ol. Lini, Tinct. Opii, &c.; while administering the medicine, the mare urinated: her urine was clear, and voided without much straining. I told the owner, there was something very curious, as well as dangerous, about the mare, when the lad who took her to the horse told me he had been in the anus, and that while the horse was in her, she nearly dropped to the ground. On hearing this, I immediately made an examination, *per rectum*, which was full of dung; on withdrawing the first handful of which, I found it covered with blood, and while clearing the rectum found a laceration about 10 inches from the outer opening.

Being rather a curious case, and the Scots Grays being in the Town, '*en route*' to the East, I obtained the assistance of their veterinary surgeon, who came and examined the mare with me: he examined her *per vaginam*, as well as *per rectum*; the first was found all right; the other lacerated, as I before found it. Or course, the case was hopeless, the mare dying in about twelve hours afterwards.

I made a *post-mortem* next day; I found every part healthy, with the exception of the rectum, in which there was a rent, about 10 inches in circumference, around which there was a good deal of inflammation. The owner applied to the master of the horse for remuneration; he objected to give anything, and I thought we should have had a case for the County-Court Judge; though after being served with summons, &c. he came to an arrangement, and paid about three-quarters of the value of the mare, with expenses.

Since the above case, I have heard of a similar one hap-

pening in the neighbourhood of Chesterfield, to a mare worth £40, about half of which the owner of the horse paid.

I am, dear Sir,

Yours truly, &c.

LEEK, *July*, 22, 1854.

LETTER FROM S. SIMPSON ESQ., TO T. HURFORD, ESQ., ON HYSTERICAL DISORDERS.

Sir,—That veterinary surgeon who has written the book on hysteria in mares, knows much more of the ways of the world than you do; as if he succeeds in getting such men as Mr. Percivall to believe it, his fortune is made, for there is not an hysterical old or young dame in England who has had a stud but will call in his aid, and by and by we shall hear of hysterical dogs and cats, &c. without number. Why, sir, I verily believe that two-thirds of the hysterical subjects among the human beings have them at will, and the other third nearly from want of it. Do you know what the old woman said when she kissed her cow? Why, fancy. Well just some real, or fancied grievance is the mother of this evil with fifteen out of twenty cases. But where, I would ask, are those wonderful hysterical mares to be found? only in the fancy of the veterinary surgeon who has written about them.

I am a horseman from a child in town and country; and I am nearly thirty-four years in India. My brother was well to do at one time, with a number of horses and mares, and we were surrounded by a multitude of large and petty proprietors of horses and mares, as well as horse-dealers on a large scale, and the great Mr. Hibbert, from England, with his large repository; and one and all knew nothing of a veterinary surgeon; all diseases treated by ourselves or the farriers; but I have never seen nor heard of an hysterical mare in all these places. And in India, I have had medical charge of multitudes of mares, old and young, but I have never had nor ever heard, in all the regiments of Mysore mares I have inspected with the Major, of an hysterical mare: so from all my experience on this subject, the author would as soon convert his ass (if he has one) to the opinion, as me, that there are hysterical mares.

I am glad to hear that you take kindly to your new regiment; I will give you a call when I come in, for a lesson in the lance exercise. Dont break your heart yet, sir, with hearing your horses cough: here am I, old pill garlic, with

more horses than you, but I have not only the medical treatment of them, but the cleaning, feeding, watering, and gelding of them ; and I am nearly in the same predicament as yourself with cocks and caulds, and yet my big master the commandant gen., says, I have nothing to do, and that if it came to my turn for promotion he will look over me ; my hearty, I wish he was in my place, on my pay for six months, and if he is worth a curse he would wish himself elsewhere, as I often do, but let him try to look over me, I am too old to lose anything, and have served too long and honestly to sit down quietly under the ban of any muckworm. I got my present, and increase of pay in spite of him, and so will I my promotion if it comes to me.

I would go awfully ahead of you, sir, with children if Mrs. Simpson brought to the world safe all she carries, for here I am in all sorts of bustle, and she must take it into her head to miscarry the second time ; but I have enough, four children, an inimical commandant gen. and a host of troubles, my heart is often *en route* to my heels, but I always pull him back to the old hole, with what do you take me to be, an hysterical mare or an old woman ?

I lost a horse yesterday, the first for a long time, with inflammation of lungs and heart. Did you ever feel any difference of temperature in a horse's breathing in inflammation of the lungs ? I found it so to a very great degree yesterday morning with this horse, one lobe was in a sad state of decay, and the breath on that side was much warmer than the other nostril ; at least I fancied so, and so did my native assistant.

I am, Sir,
Your most obedient servant, &c.

March 25, 1854.

MYLABRIS *v.* CANTHARIDES.

By Henry Daws, M.R.C.V.S., London.

Dear Sir,—I forgot to inform you yesterday that I had tried the mylabris chicorii in two or three shapes, in the proportion of 1 part to 32 of lard, oil, or dilute acetic acid, as advised by your correspondent (Mr. —, I can't recollect) in the '*Veterinarian*,' and fully confirm his assertions relative to its effects, in fact the preparations might be still further reduced in strength. I respectfully beg your acceptance of a little of

each sort, and advise you to try them when an opportunity occurs, their proportions are as before enumerated.

My friend Mr. Morton, kindly gave me a few for experiment, I have communicated to him the results. They are unfortunately not yet in the drug market, although I have been informed that they are to be obtained at a much less rate than cantharides, which article, in consequence of the war, has risen in price, cent. per cent., to 10*s.* and even 12*s.* per pound: being the price of them at present. If the *mylabris* were at the same price, they would be cheaper, as *one* ounce would be equal to *four* of the cantharides.

Can you inform me where any are to be obtained?

Yours, &c.

16, Gloucester place, New Road,
July 17, 1854.

THE APPOINTMENT OF PRINCIPAL V.S.

Cavalry Barrack, *August* 1, 1854.

Dear Sir,—Confound it! What is the matter at head quarters? How are people like us to understand Mr. Wilkinson's elevation? Had Mr. Siddall been chosen, although your senior only by a month, you must have been silent. Something like rule would in that case have appeared to be firmly held by. Had the oppointment fallen upon you, Siddall's mouth would have been stopped. He could have said nothing, unless he had something to put forward in competition with your merit. In your case the regulation which selected Coleman, would have appeared to be carried out. Coleman was appointed principal veterinary surgeon, because he lectured to boys. You have spoken out to men. In the country live very many veterinary surgeons, who are doing large practices with only one book for a library, and in every case the book is your 'Hippopathology.' Had such been all you had produced, it should not have been overlooked. But your pen has never been laid aside for an instant; and some of your writings, though long out of print, sell at the present time for more than the published cost, I mean your lectures. My book was picked up lately very cheap: I bought it, after many years' search, for three pounds ten shillings. You are the rightful head of my profession, and had you been appointed, every veterinary surgeon must have approved. But what claim had Mr. Wilkinson to respect. His entry dates fourteen years after the two before him: consequently seniority was not the ruling principle in this case. He has

written nothing. No one is aware he ever discovered anything. Art is not indebted to him for any invention. As a practitioner, he is unknown, and that so humble an individual should have been taken from the ranks does smell somewhat "musty." That both precedent and scientific principle should be passed over, simply to favour an arbitrary choice, I must confess fills me with the worst fears for our service, and the most doleful anticipations for the future government at head quarters.

It would have been quite as well if Mr. Wilkinson's "professional acquirements," which gave him a preference over you had been mentioned. I do not know in what his extraordinary ability consists, and though I have made several enquiries, I cannot learn. Those I have asked are as ignorant as myself. As to "a very important duty in Turkey" there are many civilians I could name ready to be backed in the choice of a horse against Mr. Wilkinson, who will, after all, be ruled by the necessity of getting what he can, where horses are small and scarce, or else shape his approval by the liking of the Colonels. Besides, I thought it was the place of the veterinary surgeon attached to a regiment to pass all horses required for the men. But by the new law it seems the principal veterinary surgeon is to buy horses subject to the approval of the regimental veterinary surgeon, and the Colonels in command. Such confusion does an act of injustice involve! I always imagined the uses of the numerous gradations of rank in the service was to keep the acts of the subordinate under the supervision of the superior officer. But where is all this now? When the principal veterinary surgeon is chosen to perform the duty of a common horse dealer. And the animals he has purchased, and of course approved, are afterwards to be subjected to the rejection of the regimental veterinary surgeon.

Yours, &c.

To W. Percivall, Esq.

THE HORSE SANDAL.

Sir,—I was very much surprised to see another notice of Mr. Percivall's Horse Sandal in the last '*Veterinarian*,' because the Sandal appeared to me to be so perfect as it was that it required no alteration. I see the change now is to a band instead of the buckles and straps, which I must

say did sometimes get out of order; but I have been in practice now twenty-three years, come next Michaelmas, and when I first started, and was in practice, I could make, take off, and put on a shoe, with any one, I did not care who he was; but after twenty years of full practice in the profession, one's arm gets a little stiff and out of use. Now, I can take off a shoe, but should not much relish putting it on again, except in the old holes for the nails to enter upon, and so all practitioners in my condition will say, if they speak the truth; for active veterinary business leaves us little time and less disposition for the forge. Besides, when a shoe had to be taken off and put on again, I was happy, of late years, to employ a shoeing smith, to which I found there were, in many cases, several objections. Let me appoint the hour, and be as exact to time as I might be, the man was always behindhand; I had to wait until I lost all patience, and the job did not pay for the time it took; besides the proprietor began to be cranky about the hoof being spoiled by the frequent taking off and putting on of the shoe. At last, your Sandal struck me, and, as a start, I got three of them. These did not suit all feet, so I got three more, and with these, and little alterations made at the forge, I get on quite well. If I am called now to a case of suppurating corn-canker in the sole, quittor, burse of the sole, or most other foot diseases, I put one of the Sandals in my pocket, and as I can yet manage to take off a shoe as well as anybody, I take the tools also with me. Afterwards I change the Sandal, if not quite right, but I take no more tools than are necessary, because a veterinary surgeon, in country practice, has enough to carry without them. I now find I give more satisfaction to my employers, because the horse's hoof is not touched; and besides, I save my own time, there being no smith to wait for. I have only to unbuckle the straps, and the foot is before me quite bare; I do what I think proper, put on the Sandal again with a dressing and a splint or two, and the matter is ended.

The '*Veterinarian*' says, the band is a great improvement; and what I want I know is, will one or two bands fit all Sandals, or is it necessary to buy six bands for my six Sandals. Your answer will much oblige,

Your humble Servant,

W. Vidler, V.S.

CASTRATION IN INDIA.

(Copy) No. 267 of 1854.

NEEMUCH, *March* 29, 1854.

SIR,—I am directed to furnish you with the annexed true copies of a letter, No. 1339, dated 16th instant, from the Deputy-Adjutant-General of the Army, and of a Statement accompanying it by Captain Tapp, Commanding Poonah Irregular Horse, of a method of castration adopted and recommended by him, and to request your consideration of the subject; and that you will cause the method in question to be fairly tried.

I have the honor, &c., &c.,

E. A. HARDY, Lieutenant, Acting Line Adjutant.

To MAJOR OWEN, Commanding 1st Lancers,
Neemuch.

(Circular) No. 1339.

ADJUTANT-GENERAL'S OFFICE, HEAD QUARTERS,
BOMBAY, *March* 16, 1854.

SIR,—I am directed by the Commander-in-Chief, to transmit to you the accompanyinng copy of a statement of the method by which horses requiring to be deprived of the powers of generation are operated on in the "Poonah Irregular Horse;" and to request that transcript be furnished to officers commanding mounted corps, detached troops of Horse Artillery, and Horse Batteries, with instructions fully to experiment the system of depriving horses of the powers of generation therein detailed, and to report the result through the channel of divisional commanding officers, for the commander-in-chief's information. Regimental commanding officers may communicate with Major Tapp regarding any points on which they may desire more particular information, and may detach a native farrier, or

other person, to "Secroor," at their discretion, to see and be instructed in the method of performing the operation.

I have the honour, &c.,

(Signed) J. Hale, Lieutenant-Colonel,
Dep.-Adj.-Gen. of the Army.

To the Brigadier Commanding Ragpootana
Field Force, Neemuch.

"True Copy."

(Signed) G. A. Leckie, Captain,
Officiating Major of Brigade.

E. A. Hardy, Lieutenant,
Acting Line Adjutant.

Statement of the method by which horses requiring to be deprived of the powers of generation, are operated on in the Poonah Irregular Horse:

The horse is thrown, and his legs secured in the usual manner, and he is kept on his back during the operation; a thong, with a running noose, is then passed over the testicles, and is held tightly up by one of the assistants, for the purpose of keeping the testicles steady and out of the way, as well as to prevent their being retracted by the power of the muscles, which would much interfere with the operation; another assistant, with his fingers and thumbs anointed with a mixture of butter and Huldee (pounded turmeric), seizes the spermatic cord, and presses with his fingers and thumbs, and by degrees to slip through his fingers; this joint process of pulling and pressing is continued with either hand for perhaps twenty minutes, or perhaps sometimes even longer, till the cords become soft and flaccid; a kind of clamp, of two pieces of bamboo, already tied together at one end, is then tightly fastened on the cord, and the horse is permitted to rise, the operation being complete.

The horse is then taken to his pickets, and as soon as he stales (which will probably be within an hour or two), the string which fastened one end of the clamp is cut, and the clamp removed. During this and the following day, there will be considerable swelling of the parts, but it soon subsides, without any treatment, further than the application of cold water, which should be occasionally dashed on the parts; and this might be continued beneficially for several—say ten days; and during the same period, the following is given to

the horse, in addition to his usual corn and grass: half a pound of melted butter, five raw eggs, and two massas of opium, daily; and the horse is led out for exercise morning and evening.

In some few instances, inflammation of the parts has followed the operation; but it has always given way to the necessary treatment, and in no single instance, out of the 218 operations, has a horse been lost or injured; and the patient is, if necessary, ready for work in a very few days after the operation, and the natives say, can be employed immediately if necessary.

This method of operation differs considerably from that followed by veterinary surgeons, or European farriers; and from the patient being so soon fit for work, and no danger whatever following the operation, it is supposed to be a far better mode of proceeding than any of the usual ones, for the generative glands are at once disorganised, and in the course of a few weeks, more or less, completely absorbed, and the animal becomes as perfect a gelding as if the testicles had been removed by the knife, or by any of the other European methods; and as the operation has been performed at all ages, from three years upwards, with safety and proper effect, and in every case without any preparation, such as bleeding or purging, which is required previous to operating by any of the European ways, it is to be hoped the adoption of this system might be found of considerable advantage to the service in general; and as natives easily become *au fait* at the operation, under the denomination of "aukta kurna," it might, I should suppose, be introduced without any difficulty whatever.

The advantages of the operation are as follow:

1. The patient requires no preparation.

2. He is not affected injuriously by the operation, even for a time, for he remains lively, takes his food and water freely, and stales naturally and without difficulty.

3. The horse is very speedily fit for work.

4. No danger whatever follows the operation.

5. It has been performed at all the ages at which horses are in the service.

6. The effect is as complete as if performed by any of the European methods.

7. But little flesh is lost, and it is more than replaced by nature in a few months after the operation.

8. There is no expense, excepting for ghee, eggs, and opium, for a few days, and the little butter and Huldee used in the operation.

9. The skin not having been cut or injured, the horse is not annoyed by flies, as in the case when castration by the knife has been followed.

10. In conclusion, I might say that the operation is so easily performed, that any one, by assisting for two or three times, can become an able operator himself.

(Signed) T. Tapp, Major,
Commanding Poona Irregular Horse.

Seroor, *February* 24, 1854.

(Signed) J. Hale, Lieutenant-Colonel,
Deputy Adj-Gen. of the Army.
G. A. Leckie, Captain,
Officiating Major of Brigade.
E. A. Hardy, Lieutenant,
Officiating Line Adjutant.

Camp, Neemuch, *May* 10, 1854.

Sir,—With reference to a letter, No. 1339, dated 15th March, 1854, with accompanying statement of a method of castration from the Deputy-Adjutant-General of the Army, I have the honour to state, that after an attentive perusal of the statement, I cannot advocate the plan therein recommended. It is a plan which has been from time immemorial in vogue with the natives of this country in castrating bulls, but it possesses no advantages over the recognised method of castration; on the contrary, I am of opinion, from the unnecessary severity, it renders the operator guilty of uncalled-for cruelty. The torture undergone by the animal during the operation must be frightful, and the effects, from nature endeavouring to heal the lacerated and remove the disorganised tissues, must in themselves prove occasionally injurious, though appearing at some time after the event, they might by non-professional persons be attributed to some other than the right cause.

Major Tapp's sowars or salustrees, upon whose report no doubt the statement originated, ignorant of the anatomy of the parts, must be alike unacquainted with the intense pain they inflict, and which it is the duty of any educated veterinary surgeon to avoid to the utmost of his ability; also with the causes of certain consequences which I have hinted at above, which they would not think of mentioning to Major Tapp, being ignorant themselves how they proceeded,

nor would it be an easy matter to explain to non-professional men the different ways in which such cases would operate, as they can be only demonstrated by the laws of physiology and pathology.

I have deemed it my duty respectfully to offer my professional opinion upon the practice recommended, and should it still be the wish of His Excellency, the Commander-in-Chief, to try it, the operation shall be performed to the best of my ability, though I must repeat, if ithas no other ill effect, it must at least have that of putting the horse to the most excruciating and needless torture without any corresponding result, for Major Tapp is wrong in supposing that the preparations he refers to are absolutely necessary. Precautionary measures are certainly merely taken when time and opportunity present, but they are by no means indispensable. On the line of march, horses are frequently castrated without any preparation, and march on with the regiment the next day.

I have the honour, &c.,
(Signed) J. H. B. Hallen,
Veterinary Surgeon, 1st Lancers.

To the Adjutant, 1st Lancers, Neemuch.

No. 530 of 1854.

To the Officer Commanding, 1st Regiment Light Cavalry (Lancers), Neemuch.

Neemuch, *June* 5, 1854.

Sir,—I am directed by the Lieutenant-Colonel Commanding, to transmit annexed transcript of letter No. 2476, under date the 25th ultimo, from the Adjutant-General of the Army, for your information.

I have the honour, &c.,
(Signed) G. A. Leckie, Captain,
Line Adjutant.

No. 2476.

From Lieutenant-Colonel H. Hancock, *Adjutant-General of the Army, to Lieutenant-Colonel* E. Green, C.B., *Commanding Ragpootana Field Force, Neemuch.*

Sir,—Having submitted to the Commander-in-Chief your letter, 315, of the 15th instant, with accompaniments, I am

directed to intimate, that upon a consideration of the objections stated by Mr. Veterinary Surgeon Hallen. His Excellency does not wish the system of depriving horses of the power of generation practised in the Poona Irregular Horse, to be experimented in the 1st Regiment Light Cavalry (Lancers), more especially since it would appear that the precautionary measure suggested in the circular from this department, No. 1339, of the 16th March last, has not been acted upon by Major Owen.

His Excellency considers the remark of Mr. Hallen, that the operator in the system adopted in the Poonah Irregular Horse must be guilty of "cruelty," is uncalled for, and highly improper, as reflecting indirectly upon the officer commanding the corps in permitting the practice, which Major Tapp's well-known character for humanity affords full assurance that he would not have done, were it really attended with the severe suffering to the animal assumed by Mr. Hallen.

I have the honour, &c., &c., &c.

(Signed) HENRY HANCOCK, Lieut.-Colonel,
Adjutant-General of the Army.

ADJUTANT-GENERAL'S OFFICE, HEAD QUARTERS,
MAHABLISHMAR, *May* 25, 1854.

"True Copy."

(Signed) EDWARD GREENE, Captain
Major of Brigade.

"True Copy."

(Signed) G. A. LECKIE, Captain,
Line Adjutant.

VETERINARY JURISPRUDENCE.

Selling a Glandered Horse.

MIZEN *v.* BUNTEN.

This was an action for damage sustained by the defendant selling him a glandered horse.—*Mr. James* and *Mr. Hanner* appeared for the plaintiff, and *Mr. Hawkins* for defendant.

Mr. Hanner opened the pleadings. The declaration stated that the plaintiff bought a horse of the defendant, who warranted it had not the glanders; that it had the glanders, and the disease being communicated to a number of other horses, they died. Defendant pleaded that the horse was not sold, that he did not warrant it, and that he was not guilty.

Mr. James said this was an action for having really been guilty of a serious offence, in not having merely sold the plaintiff an unsound horse, for some held in the morals of horse dealing that all cheating was fair, but in selling to Mizen, who was a farmer, a horse that had nearly ruined him, for within a fortnight six of his horses died; it was of serious consequence to him, as it being seed time, if the clergyman and others had not lent their horses to work his land it would have been his absolute ruin. The parties resided near Saffron Walden. On the 4th of February plaintiff saw Bunten, who is a horse-dealer, in Walden market, and finding he wanted to buy a horse, he said he would sell him the black horse which his brother had used, which was not true; it was not the horse, and his knowledge of this horse being glandered would be shown by the falsehoods which he told. On Monday plaintiff went to look at the horse; nothing was said about a warranty then, but the plaintiff seeing something suspicious about the nostrils—and they knew that glanders was one of the most dangerous diseases, that had frequently caused the loss of human life—called the attention of Bunten to it, observing, surely it is not glanders. Defendant replied, "Oh no, I'll take oath it is not glandered, it has a little cold in its head." Plaintiff said—"Will you warrant it?" Bunten replied, "I'll warrant it is not glanders, and nothing catching." Mizen bought it, and took it home on the 6th. He should prove that the horse at that time must have been glandered for days and weeks, and with the knowledge of the defendant; and in less than a fortnight plaintiff lost six horses, which caught the disease and died. They also tried an experiment with a donkey, which they inoculated with the virus from the diseased horse, and that died in seven days. The value of the six horses was between £90 and £100. Now the defendant was liable for the damage done, for if he sold the horse, knowing the disease and its power of infection, he was liable for the whole damage that the plaintiff sustained. He was told they were to have great authorities on the other side; Mr. Spooner, of the Veterinary College, was to come to give his opinion that this horse might not have had the glanders; but he should call gentlemen who would tell them what they actually saw: and he should be much surprised if the defendant with all his men of science and judgment in the matter, was able to alter one tittle of the evidence.

William Mizen, the plaintiff. On the 4th of February I was at Saffron Walden market, in want of a horse, and spoke to defendant, who said "I have the horse that was at your

mother's, and if you come I will sell it;" I went and saw it; it was not the horse I meant, and I told him so; this was a black one—the other was a bay; he said this was at your mother's before the bay, and will suit you better; he asked £6 for it; I said "Is there anything the matter with him John," for I thought his nose was wet; he said "No—the horse lay in the yard and caught cold, and he had a large place gathered under his throat as big as a turkey's egg, and that was quinsy; it broke and run at the nose, and stunk a great deal;". "I said it stinks now;" he said, "nothing to what it has done,—it is almost gone." I said, "Do you know a glandered horse, John;" he said "Yes;" I said "I do not, I never saw one;" defendant said "I had one once and sold him for about 30*s*;" I said "Surely there is nothing of that about it;" he said "No, —I can take my oath of that, and so can Tom; he was at Mr. Smith's four days ago, and worked by the side of horses worth £30,—I can take my oath there is nothing catching about him at all; he could do as good a day's work as any in the parish;" I said "If you will let me have it for fourteen days, if he is as good as you say, I'll keep him, and if I don't like it I'll pay you for the time;" he said I should take it. That was on the 6th of Feb. I took the horse home, and left him to be shod at the blacksmith's; I worked the horse the next day, and on the 10th sent it with my other horses to Stortford; the man came back without it, and I never saw it any more; I went to Stortford, and saw the police, and found what had taken place; I sent for defendant, who came to me at twelve o'clock at night, and said he had the horse killed; I said, "Then he was glandered, John," and he said "No, but I had him killed because I would not get into further trouble about it." My other horses had been well, but on the Wednesday after they were taken ill, and five died, and another I had killed; they were agitated and could not draw their breath; Mr. Rule, the veterinary surgeon, saw them; I had a donkey inoculated from them and it died; I valued the horses I lost at £60, if to be sold in the market, but I would rather have the horses than £100. Mr. Taylor lent me horses to do my work or I should not have been able to do it. Besides the loss of the horses, I am liable for about £10 expenses in connexion with the effects produced by the purchase of this horse. A week after the horse was killed, defendant said to me, "This is the day to pay for the horse."

Cross-examined. Had known defendant 15 years; he is a dealer and a jobber. Have seen him sell horses at the fair; did not ask defendant in the market if he had a low-priced

horse to sell—nothing was said about price; he did not mention the running at the nose then. When I went to the defendant's house I did not mention the price I should give for a horse—I wanted a £5 or £6 or £7 horse. Defendant said Mr. Webb (the veterinary surgeon) had seen him, and said there was nothing catching about the horse. I sent the horse to Stortford, 12 miles, on the Tuesday, and he came back again; he also went to Stortford on the Wednesday and Thursday—on the latter day he did not come back again. Did not tell defendant when he said the horse was killed I supposed I must be half the loss; after the horse was dead, he took me to see the other horses, and see there was nothing the matter with them; they appeared very well at work. On the Tuesday I had bought a horse of Mr. Archer for 50*s*. I saw no running of the nose of that; I had not before that shown Mr. Archer a horse of mine ill at home; the day after, the horse I bought of Mr. Archer died; he saw a horse in my stable with a running at the nose—it died that night.

Re-examined. Bunten told me that if he had known I was going to send him to Stortford he would not have sold him to me.

Wm. Adams. I was in plaintiff's service in February, and remember the black horse coming home; the next day went to Stortford with it, and noticed a running at the nose, which smelt disagreeable; I saw it the night it came home; he had a rattling in the throat, and made a great noise in breathing; he was the same on Friday when I took him to Stortford; he could not feed well; at Stortford I put it into the Swan stable, and Barnes, the superintendent of police, came and took it away; before this horse came my master's other horses were hardy and well, and had a coomb of corn a day; on Saturday morning I went to Bunten, in Walden market, and told him they had taken it away for being glandered; he said it was not glandered, he would swear, for the veterinary surgeon told him so; soon after, five of my master's horses were taken ill, and the running at the nose smelt like that of the black horse; had never seen a glandered horse before.

Cross-examined. When Mr. Barnes stopped the horse at Stortford, Mr. Titchmarsh was called in to see it.

James Parish. I saw the plaintiff's team on the way to Stortford, and said, "What have you got here—a snotty one—that is glandered?" and Adams said it was quinsy; I did not put my horse with it from what I saw.

Cross-examined. A glandered horse has a great jog under the throat, runs at the nose, and smells; this horse had such a rattling in the throat that he could not get his breath.

Re-examined. I had seen plaintiff's horses before, and they were in healthy working order.

Supt. Barnes. I went to the Swan stable, and found the black horse; I felt satisfied it was glandered,—it smelt badly,—and I sent for the veterinary surgeon; I sent it to the knacker yard, and the next day, with the consent of Bunten, ordered it to be killed. Burten said he did not believe it was glandered, for Mr. Webb had told him it was quinsy.

Henry Parish. I saw the black horse at Stortford, and should say it had the glanders—it smelt much; I have seen many glandered horses, and this had the same symptoms; my man killed this horse; I buy dead horses.

M. Titchmarsh, a veterinary surgeon in practice at Stortford for 23 years. I was called in to see the horse, and never saw a worse case of glanders; it would have been dangerous to touch any part of it, and I did not make a *post-mortem* examination; it must have been affected for weeks to be in that state; there was ulceration of the worst kind by the disease, and I should say it had been there a month; it was not quinsy, or anything of that; I should say, from the cough, that there was great ulceration of the lungs; this case was so far advanced that no one who had seen a glandered horse could mistake it.

In cross-examination witness described the symptoms he observed in the horse. If a horse had acute glanders he could not work, but this was in the chronic form; believed from the state of this horse that another would take the disease from it, and show it in five days.

Parish recalled. My man opened the horse, and the lungs and whole mucous membrane were ulcerated.

Mr. Rule. I am a veterinary surgeon of the old school, and have been 40 years in practice; I have seen many glandered horses; I did not see the black horse, but was called in on the 15th to the other horses, one of which died the next day; the others died of the same symptoms; I inoculated a healthy donkey from the horses, taking the virus from the nostril, and he died the 7th day after it was done, with decided symptoms of glanders, I tried the experiment quietly.

Mr. James. No one knew it but you, Mr. Mizen, and the donkey. [Laughter.]

Witness. I should put the average value of the horses that died at £7 each.

Cross-examined. In the first case it did not strike me at first what was the matter with it; I gave it two balls and a draught.

Mr. James. Like one of the old school,—if you know what

is the matter you physic him, and if you don't, you physic him till you do. [Laughter.]

Jacob Pryme, a blacksmith, at Saffron Walden. On the 6th of February, the black horse was brought to be shod; it had a running nose, which was offensive, and I white-washed the place to prevent infection; I knew plaintiff's other horses, and they were in good working condition.

James Housden, farmer, spoke to the plaintiff's horses being in good order, prior to the 6th of February.

This was the plaintiff's case.

Mr. Hawkins addressed the jury for the defendant, contending, first, that the horse was not sold; and secondly, that there was no warranty. He admitted that if Bunten had said "The horse has not glanders on him—I warrant that;" and if on the faith of that the plaintiff took him into his stable and his horses died from it, the defendant would be liable; but if it was only an expression of his belief that would not be sufficient, because they must go further and show that Bunten knew at the time that the horse was glandered, and made the representation to induce Mizen to buy it—it must be proved he was aware the representation was false, and that he made it for the purposes of fraud. After the evidence given he was not prepared to say there was not sufficient to justify them in coming to the conclusion that the horse died of glanders—it would be idle to dispute that; but the question was, did Bunten know it had the glanders, and was not that which took place not a warranty, but a casual conversation? Mr. James said he should prove great falsehoods had been told by the defendant to induce the plaintiff to buy the horse, but nothing of the kind had been proved: and the fact of Bunten allowing the horse to be taken on trial for a fortnight, and allowing it to go with his own, must be to their minds conclusive that he was ignorant of the state of the horse. If he had been practising a fraud would he not have been anxious to get rid of the horse at once, instead of sending him for a fortnight's trial. He would put the defendant into the box to tell them he never did make the representations stated; Mr. Webb would tell them that other causes might have produced the running at the nose; and it was no matter whether the opinion he formed was correct or not, it was enough that Mr. Bunten had engaged a gentleman of skill, as Mr. Webb was, to investigate the case, and give him his opinion on it, on which opinion he acted. If they called in a doctor to their child, and he made a mistake, and gave them directions how to act, and the child died, they were not to blame; nor was the

defendant to blame for repeating what his veterinary surgeon told him. He contended that all the circumstances showed there was no warranty; and if they believed Bunten, their verdict, under his lordship's directions, would be that there was no fraud in the case, and the defendant was not liable, for he was sure their pity for the plaintiff would not induce them to give their verdict against Bunten on facts that were not clearly made out.

J. Bunten examined. I am a farmer at Wimbish; on the 4th of February plaintiff came to me in Walden market, and asked if I had a low-priced horse I could sell him; I said I had one I gave £8 for, which I would sell for £6, but he had been at his mother's, and came home poorly, and had something of a running at the nose, but he could work; there was no appointment made for him to come to my house to look at him; on Monday plaintiff did come to my house, and saw a horse, which I asked £10 for; he said he must have a low-priced one, and he went to the stable and looked at this horse, and smelt of the nose, and said, "It does smell;" I said "I told you so on Saturday;" I told him Webb had seen him, and said it was only a cold; that he had got better, and had been at work for my neighbour Smith; he asked if I would not take less than £6; I refused; he asked, would I let him have him a fortnight on liking; I said, "Yes; if you like him, then pay the £6, or, if you don't, send him back and give me a sovereign." He did not say he would take it, and I left him with my man; I said, "You know as much about it as I do;" He said, "Is there anything catching?" I said, "If there was anything catching, we should not let him be feeding with the other horse, as he is now." I never to my knowledge had a glandered horse, nor did I sell one for 30*s.*; the glanders were not mentioned to Mizen,—I did mention the quinsy to him; I never told him I sold a glandered horse for 30*s.*; nor did I hear the word glanders mentioned till I came back from Stortford; on coming back from Stortford, I called Mizen up, and told him of it, and he said, "I'll see you on Saturday, and will be half the loss;" on Saturday I saw him, and he said he could not give me anything towards my horse, as he had lost one of his own; a fortnight after he came to my farm, and said he had lost another horse, and must make some one pay for them; I then took him to show him my horses, which were all healthy. When the plaintiff, and I were talking about the horse, I did not use the words warranty or glanders; I did not say "if I had known you would have sent it to Stortford I would not have sold him to you;" I did not know it was glandered—I wish I may be struck down if dead I did.

Cross-examined.—Webb said the running at the nose might have come from a fall,—my men said he had had a fall in a corpse-cart. Mr. Smith had had the horse, and he worked it with a rag over his own horse's nose; he said his own horse was given to biting, and as my horse had got a cold, his horse was more likely to catch it. I have never been what you call a horse jobber. I job in pigs. To my knowledge I have never seen a glandered horse. I do not know one if I see it, or I should not have sent to Mr. Webb to look at this. Never asked plaintiff for the money for the horse, or threatened to put him in the county court.

Thomas Law, horsekeeper to defendant. On the 6th of February, when plaintiff came to the farm, he said, "I am come to look at your horses," and he went to the stable to look at the black horse; he said it ran at the nose and smelt; master said, "I told you so;" he said, "Surely, it is nothing catching;" and defendant told Mr. Webb said it was not; I had seen Mr. Webb examine him, and he said it was nothing catching, and told me to wash his nose with water and slacked lime. I told him the horse fell down in the corpse cart, and he said, it might come from a blow. My master gave plaintiff the price of the horse and went away; plaintiff after that asked me about the horse, and saw him eat a bit of hay, and then said he should take him; and he did so and went away. I did not know the horse was glandered. I knew nothing of it but what Mr. Webb told me.

Cross-examined—Have smelt cattle worse than that. Mr. Webb said the lime was to take away the smell. Defendant told Mizen he believed it was not catching. Webb said it was not; glanders was not mentioned. The horse never stood alone while with us—sometimes he stood with four.

James Swan—I was at Bunten's when Mizen came about the horse; Mizen said he did not like the scent of his breath, and Bunten said Webb told him it was not catching—it only came from a blow or a fall.

Cross-examined.—I smelt the horse, and it was very bad; I had never seen anything much worse.

— *Smith*—I live at Wimbish; I had this horse four days; I borrowed it, and Bunten mentioned its running at the nose, but said Mr. Webb told him it was nothing catching; I put a rag over my horse's nose to prevent its biting, and as this had a cold I thought it might be catching; the horse worked four days with mine—broadside with it, but my horse had no ill effects from it.

Mr. Webb, of New Sampford, veterinary surgeon.—In Jan. was requested to examine the black horse, and described the

state he found it in; I had not the slightest suspicion it had the glanders—there were no symptoms to lead me to it; they said it was not worth doctoring, and I told them to wash the nose with chloride of lime; a conversation passed, and I told them it was not catching, and at that time it decidedly was not; had seen cases of running at the nose and smell without glanders, and from what I was told of the horse falling in a cart, I considered the running at the nose was produced by an injury.

Cross-examined—There was no glanders in the horse at that time; but from Mr. Titchmarsh's evidence, I cannot doubt it had glanders at the time it was killed.

This was the defendant's case.

Mr. James addressed the jury for the plaintiff in reply upon the whole evidence, examining the various statements of the witnesses, arguing that if the defendant said he would take his oath it was not glanders, he was responsible, and it was no answer to the plaintiff to say that his veterinary surgeon had said there was nothing catching—if the defendant acted upon that opinion he did it at his hazard. The plaintiff, happily, was rather deaf, for he had no doubt if he could have heard all that had been stated by the witnesses on the other side, his hair, if he had enough to do so, would have stood upright on his head. (Laughter). Mr. Rule, the man of the old school, whose appearance, by the bye, reminded him of the late Daniel O'Connell—(Laughter)—had stated that the plaintiff's horses died from the disease caught from this horse, for which plaintiff was entitled to compensation; and besides this there was £10 expenses incurred, which he was entitled to recover from the defendant.

Mr. Justice Erle summed up the case, and said the two points they had to consider were, whether the defendant did or did not warrant, and whether the representations he made were or not false to his knowledge. Till these points were disposed of the question of damages did not arise.

The jury retired, but shortly returned with a verdict for the plaintiff, damages £50 on the false representation.

Home Department.

EFFECTS OF COD LIVER OIL ON THE BLOOD.

(From Report of Royal Society, April 27th, 1854.)

A PAPER was read:—"On the Changes produced in the Blood by the Administration of Cod-liver Oil and Cocoa-nut Oil. By Theophilus Thompson, M.D., F.R.S.

The author has found, that during the administration of cod-liver oil to phthisical patients their blood grew richer in red corpuscles, and he refers to a previous observation of Dr. Franz Simon to the same effect. The use of almond-oil and of olive oil was not followed by any remedial effect; but from cocoa-nut oil, results were obtained almost as decided as from the oil of the liver of the cod, and the author believes it may turn out to be a useful substitute. The oil employed was a pure cocoa oleine, obtained by pressure from crude cocoa-nut oil, as expressed in Ceylon and the Malabar coast from the Copperah or dried cocoa-nut kernel, and refined by being treated with an alkali, and then repeatedly washed with distilled water. It burns with a faint blue flame, showing a comparatively small proportion of carbon, and is undrying. The analysis of the blood was conducted by Mr. Dugald Campbell. The whole quantity abstracted having been weighed, the coagulum was drained on bibulous paper for four or five hours, weighed, and divided into two portions. One portion was weighed, and then dried in a water-oven, to determine the water. The other was macerated in cold water until it became colourless, then moderately dried, and digested with ether and alcohol, to remove fat; and, finally, dried completely, and weighed as fibrin. From the respective weights of the fibrin, and the dry clot, that of the corpuscles was calculated. The following were the results observed in seven different individuals affected with phthisis in different stages of advancement:

		Red corpuscles.	Fibrine.
First stage, before the use of cod-liver oil	Female	129·26	4·52
	Male	116·53	13·57
First stage, after the use of cod-liver oil	Female	136·47	5·00
	Male	121·53	4·70
Third stage, after the use of cod-liver oil	Male	138·74	2·23
Third stage, after the use of cocoa-nut oil	Male	139·95	2·31
	Male	144·95	4·61

THE VETERINARIAN, SEPTEMBER 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

Mr. Arkcoll's case, or rather cases, are rare, though not so rare probably as may be supposed; at the same time, are replete with interest, and, from the mode in which they occur, are rather strange. The act is one with animals, we should say was quite *contra naturam*, and one that happened accidentally, or through heedlessness; one not so unlikely after all to happen on occasions of disparity of size or proportion in the copulating animals; at the same time, an act that was not so unlikely to take place, when the blind and furious impetuosity of the animal was manifested, such as we often see in them on such occasions. Nothing, at such a time, under the influence of a passion so impetuous and unrestrainable can resist its attack, everything must give way to its ungovernable fury; nor are we surprised to hear of such rents and lacerations as result so often from such acts of coition *contra naturam*. No passion in the animal, who feels it but at seasons or times, proves so unrestrainable as the one we are speaking of: under its uncontrollable sway, the most revolting and even dangerous effects may, and have taken place. And when such lamentable consequences have ensued, what is to be done for the reparation of the loss arising from the damage done, as well as for the surgical repair of the injured parts? We are afraid, as in the cases we have had tonarrate of Mr. Arkcoll's, that the art of surgery is incompetent to the task: that, so far from succeeding in repairing the damage, nature sinks under the shock of violence she has received and succumbs, exhausted from it, before time be given her even to make an effort towards recovery. She is so hurt at the unnaturalness, as well as violence of the act, that from the first she sinks to rally no more; and the owner of the male aggressor is at once called on to make reparation for the injury

inflicted, and consequent destruction of life. It does not appear that the male sustains any consequent injury, or even suffers from the unnatural connexion; but the female, as appears, is too often, in consequence of it, deprived for ever after of vigour, and even life itself; and such loss is expected to be made good, as indeed appears right in most, if not in all cases, by the proprietor of the male agent in the affair. Nor does this seem to be a point affording reasonable ground for contention, unless under circumstances which may appear to carry with them extraordinary unexceptionable evidence, enough to render the case one anywise dubious or questionable. The amount of damage such cases of loss or injury seems to have been assessed at, appears to have been about one half or three fourths of the value of the mare—nor is this rating the loss too highly, we think. The act being one occasioned, not by any fault or mismanagement, or by any thing short of the blind fury of the animals engaged in it, we do not well see how such could have been by any foresight or precaution prevented or guarded against, especially when it is found to be so rare in its occurrence, as to put all precautionary measures, which might or might not answer their intended purpose, so far out of the question, as to prove abortive, as measures of practice or convenience. So that, taking all things into consideration, perhaps the matter can hardly be considered on fairer grounds than that on which it rests at the present moment, according to which the cases in point have been decided, and than which we can hardly perhaps come to a juster decision.

THE

VETERINARIAN.

VOL. XXVII, No. 322. OCTOBER, 1854. Third Series, No. 82.

DEFENCE OF MORTON'S 'VETERINARY PHARMACY.'

To the Editor of 'The Veterinarian.'

Mr. Editor,—On looking through some of the recent numbers of the *Veterinarian*, I could not help thinking, when scanning over your review of Mr. Dun's work on 'Veterinary Medicines, &c.,' with what unfairness in his preface he treats the author of *our* 'Veterinary Pharmacy.' He tells us that "during the four years in which I have lectured on Materia Medica, at the Edinburgh Veterinary College, I have endeavoured in vain to find a suitable text book for my class. The meagreness and inaccuracies of the published works on veterinary medicines, are such as to have compelled me to use Christisson's 'Dispensatory,'" &c.

This, Mr. Editor, I conceive to be uncourteous, uncalled-for, and untrue; and Mr. Dun will find that such statements will neither facilitate the sale of his own work, nor lessen in our estimation that by Mr. Morton.

Of the ability shown by Mr. Dun, and of the care manifested in the construction of his work, I am an admirer; but, I am too sensible of the great value of Mr. Morton's 'Veterinary Pharmacy,' to admit that, on such grounds as those stated by Mr. Dun, he could have found any necessity for a compilation from the works of Professor Christisson's 'Dispensatory' and 'Treatise on Poisons,' Pereira's 'Elements of Materia Medica,' an 'Essay on the Actions of Medicines,' the 'Edinburgh Pharmacopœia,' Hertwig's 'Praktische Arzneimitellere fur Thievärzte,' and Moiroud's 'Traité Elémentaire de Matière Médicale, ou Pharmacologie Vétérinaire,' *cum multis aliis.*

Mr. Dun must, *at least*, admit, that, in Mr. Morton's work there is *originality*, and that he has not merely compiled a

volume from such sources as could only afford scanty information on "Veterinary Medicines." If Morton's 'Veterinary Pharmacy' is not made of such material as is admissible at the Edinburgh Veterinary College, and is so "*meagre and inaccurate*" as to be worthless in the eyes of Mr. Dun, we would ask those who have seen and read Mr. Dun's work, whether that gentleman has supplied the veterinary surgeon and student of veterinary medicine with a book calculated to fill up the supposed deficiency?

I am, Mr. Editor,

A M.R.C.V.S.,

And one who for some years has referred with advantage to Morton's '*Veterinary Pharmacy*.'

September, 1854.

ANOTHER DEATH FROM "PHYSICKING."

By John Brown.

Dear Sir,—In the last month's number of your invaluable periodical (for September), p. 447, there is a case related of death caused to a horse by physicking. This reminds me of an observation of an old and respectable veterinary surgeon, long since gone to that "bourne from whence no traveller returns," who told me that "he killed a horse once by giving him a dose of physic." The horse was in perfect health before he had the physic, but the owner wishing him to have purging medicine, the horse had been kept without food some time before he had the physic, and some time after. He was soon taken ill with all the symptoms of gastritis, and died. When opened, the stomach was found empty, and the ball lying on the coats of the stomach, causing considerable inflammation around, and which, in his opinion, was the cause of death. The ball was composed only of aloes. He told me this was a lesson to him ever after, never to give physic to a horse on an empty stomach.

I remain, yours truly.

23, Whitefriars Street;
August 28, 1854.

OBSERVATIONS ON "PHYSICKING," "STRANGLES," &c.

By R. H. Dyer.

Sir,—A four-year old entire colt, about 15 hands high, last week had administered to it four physic-balls, containing *thirty drachms* of aloes, which had no *apparent* effect. The owner not being satisfied, applied to me for a ball containing 8¼ drachms of aloes. Not being one of my clients, and under the circumstances, I hesitated sending the medicine; however, upon duly cautioning the messenger as to the enormous dose he was about to thrust down the throat of the horse, I sent my foreman to administer the ball. It purged during the day, and continued to do so for twenty-four hours, after which it ceased to act, and the horse did well.

I forward this case of physicking, as I have read in the August number of the *Veterinarian* of a horse killed by the administration of six drachms of aloes with a quantity of croton oil. It goes to prove how the constitution of horses differ, and that we should *feel our way* previous to giving purgatives.

I observe a well-written article in the September number upon '*Irregular Strangles.*' Without entering into details of a great variety of cases I have treated during the past year, I would remark, that, with reference to the application of blisters to the glands to promote suppuration, I am inclined to believe, in the majority of instances, they do no good. I have found cataplasms and hot fomentations to answer better than blisters: this mode of treatment, together with slops, and a cool box, being all that we require to bring the case to a satisfactory termination. Nature is the best physician in most instances. I believe more harm is done where much is attempted by the practitioner than when nature is left to herself.

I remain, Sir, yours truly.

Waterford; *Sept.* 5, 1854.

THE MYLABRIS.

By W. Furnivall.

Dear Sir,—We have now given the mylabris you sent, a fair trial, and we certainly find them to be very efficacious.

I see, by Mr. Daws' letter in the *Veterinarian* for last month (September), that he suggests the strength of the compounds might be still further reduced. Having tried it for the legs and throats in the proportion of one to forty, I cannot say that it produced the desired effect. We have obtained half a pound of the mylabris, from Gale, Baker, and Co., at 9*s.* per pound, intending to use them in lieu of the cantharides for the future. The number of patients experimented on were 50.

I am, dear Sir, yours respectfully.

SHEFFIELD; *Sept.* 6, 1854.

To Professor Morton.

A LETTER BY MR. MAYHEW.

To the Editor of 'The Veterinarian.'

SIR,—It must be in the recollection of yourself and readers, that I was some years ago engaged in a controversy with Mr. Barlow, of the Edinburgh College, concerning a paper which was read before the Veterinary Medical Association of London. The dispute appears to have rankled in the bosom of my former antagonist. He has now become (so I am informed) editor of an Edinburgh paper, entitled *The North British Agriculturist*. Now, had a work of Mr. Barlow's been handed to me for review, I should have endeavoured to be just. Were I conscious of the least animosity towards the author, I should certainly have declined the task; did I anticipate it possible, that the most suspicious person could have impeached my decision, or impugned my motives, self-respect would have told me, I was in no position to play the critic.

Such, I believe, are the conditions recognised by the literary world, and, I am happy to say, more than one friend of my acquaintance has acted up to the principles indicated above.

The paper, of which Mr. Barlow is (according to my informant) the editor, was published in Edinburgh on Wednesday, August 16th. On Friday, August 18th, a copy is brought to me by the earliest post of that morning. The paper so sent is clean, uncreased, and uncut; it had evidently been posted the instant the impression had been pulled, and sent off by some one connected with the publication. Immediately above the title, written in a bold Roman text, are the words, "*See Review of Blaine.*" The phraseology is peculiar, very peculiar; it sniffs of the profession. One uninitiated in the mysteries of professional language would

have indicated a book by at least the major portion of the title; but here we have simply "*Blaine*," as representing the particular work. If this was an accident, it was one of a most extraordinary nature.

I, thus instructed, turn to the review. The first thing which strikes me, is its great length. The paper is by no means a large one; when advertisements, &c., are extracted, it consists of about thirty-two columns. The "Review on Blaine" actually occupies nearly one tenth of the space at the command of the editor for particular and general news, leaders, markets, intelligence provincial and metropolitan, &c. The length is evidently too extensive to be allowed to any contribution; and, putting this and that together, the early date of my reception of a paper sent by post to me, the peculiar state of the paper I receive, the length of the article in question, and the nature of the sentence directing my attention to it, I feel it impossible to arrive at any other conclusion than that the review in question is the work of the editor of the paper, or of some person writing under his direction. Either way, the article is in equal bad taste; it is contrary to English notions of propriety to forward an adverse review to the author of any work; exposure from a just critic is an employment to regret, not an occupation to triumph in. With the general opinions of the paper, I intend to have no dispute. I have written; my book is before the public; by publication, I have invited judgment, and I have no right to complain when it is against me. A critic, however, should be certain of his facts before he advances them; he ought to pelt a writer with no dubious opinion; he, above all, should be most careful not to found condemnation upon surmise. Mr. Barlow, or the writer he employs, speaks as though he learnt from the book, for the first time, that I once presided over an anatomical school. This is a pretence which, under the circumstances, amounts to positive dishonesty; there are positions so high that suppression of truth is a crime, and to tamper with the right becomes an actual falsehood. Mr. Barlow must have known all my antecedents, for my course has unfortunately been too marked to escape observation. At the time of my dispute with him, some years ago, I had just ceased to be one of the teachers at the London Veterinary College, and at the servant of that institution his remarks were evidently launched. Amidst the wholesale abuse of the author, Mr. Barlow, or the writer he employs, however, manages to bestow some unintentional praise upon my unacknowledged work:

"*The muscular nomenclature is preferable to that in former use;*

there are also useful woodcuts, and, as we before said, excellent copper-plates, illustrating the test."

The above sentence would not have been indited, had it been known that Professor Spooner was the author of the nomenclature; I made the drawings for the woodcuts, and some of the copper-plates are my composition.

With such random, and such blind thrusts, does the above review abound. The worst feature about it being, that it displays a bad feeling towards "Mayhew," or "Mr. Mayhew," whose name is by far too frequently mentioned, and always as a peg on which to hang some shred of vulgar abuse. I would have hoped, that the time had at last arrived when the members of our profession could speak of one another, and dispute like gentlemen; I regret such appears not to be the case. In the affair in question, Mr. Barlow will not mend the matter by asserting that he did not write the review; as an editor, he has more than a personal responsibility of every unacknowledged article that appears in the paper over which he presides; the moral obloquy of every slander printed in its pages clings to him. As an author, perhaps dislike might in some measure have guided his pen; but as editor, he accepted a post of judgment, and this last quality he was bound to exercise, or, obviously, he betrayed a solemn trust.

I have the honour to be, Sir,
Your most obedient servant,
EDWARD MAYHEW.

7, LONDON STREET; *Sept.* 7, 1854.

CASES OF RABIES, &c.

To the Editor of 'The Veterinarian.'

DEAR SIR,—Should you deem the enclosed, hastily written cases of sufficient interest to appear in your ably conducted and instructive periodical, their insertion in an early number will oblige,

Yours truly,
RICHARD SHENTON.

ASHBOURN; *Sept.* 14, 1854.

On the 16th of April last, a strange dog made his appearance in the neighbourhood of Tissington, near Ashbourn, where he commenced sheep-worrying. On leaving Tissington, he ran furiously from village to village, over an extensive

district, committing serious depredations among several flocks of sheep and lambs which, unfortunately, fell in his way. What became of him ultimately I have been unable to ascertain. As far as I can learn, he was last seen at Biggin, a village four miles from Worksworth. The sheep he came in contact with were severely bitten about the head, &c., whereas the lambs, in most cases, were worried to death.

On the 7th of May, Mr. Taylor, of the Hayes Farm, near Kirk Ireton, was sent for Mr. Cox, V.S., whose assistant I am at present, to see some sheep which had been bitten by the above-mentioned dog. I went with Mr. Cox, and on arrival we found one sheep in the first stage, and another in the last stage, of rabies. The first sheep, which never appeared to ail anything until that morning, was with the rest of the flock. She had forsaken her lamb, and ceased eating; she had a wild staring appearance, and drove the other sheep, as rams do to try ewes during the estrum season, also riding on and driving them about: still, there was nothing vicious about her. On examination, we found the membranes much injected, particularly the one lining the vagina. The other sheep was evidently in the last stage of rabies; her symptoms were shaking and nodding of the head, champing with the mouth, wild staring appearance, giddy reeling gait, &c. For the first three days, her symptoms were precisely the same as those in the other case. The lamb of this ewe had died rabid three days previously.

On the 26th of April, Mr. Ginniss, of Kniveton Wood, called us into a sheep of his which had been riding and running the other sheep about. Mr. Ginniss had confined her in a cart-house, with her lamb, which she rode and drove about in a most distressing manner. On approaching her, she butted with all her might; she bit savagely at a stick, ran against the wall, and nibbled the mortar. She ate a little for the first few days. She continued as we first saw her for eight days, when she became giddy, paralytic, and died. Great numbers of sheep died rabid from the bite of this dog; some we saw, and others we heard of. In every instance, the first symptom in the male was priapism, and in the female, furor uterinus. I am extremely sorry that we had not an opportunity of making a post-mortem examination in any of the cases.

On the 7th of July, Mr. Swindell, farm-bailiff to Mrs. Okeden, of Ashbourn Green, applied to us for an application for a lame horse. The animal had been kicked by another horse in front of the tibia. For a short time, he was

only slightly lame, and was worked as usual for several days without any apparent inconvenience. He at last became suddenly very lame, from (as it was thought) striking his toe against the ground. Mr. Swindell now commenced fomenting and rubbing the affected limb with some oils he had by him, but without effect. Mr. Cox was therefore called in—this was a week from the time of our application being used, and seventeen days after the injury.

Symptoms.—We could see where the blow had been given, as the hair was gone; the skin, however, was entire. The seat of the injury was half-way between the patella and the hock-joints. There was not the slightest swelling, though the horse was now deadly lame. Pressure on the tibia occasioned acute pain, and he carried his leg.

Diagnosis.—Mr. Cox was of opinion that the bone was fractured, but not displaced. Unfortunately, we could not make our employers think so. Cold lotions were therefore applied; but, as we anticipated, without effect, for on the 21st, it was apparent to every one that the thigh-bone was broken. At the earnest desire of Mr. Swindell, we set the limb; but, as we had not the means at hand to sling him, he was turned into an uneven field, in which he got overthrown. There was now no alternative but to destroy him, which was accordingly done.

On the 13th of August, Mr. Sheldon, of Wyaston, requested our attendance on a cow that was lame in the near hind leg. We could see nothing more than an abrasion on the front of the tibia. It would seem Mr. Sheldon had perceived this, and had been rubbing with something for upwards of a week. It was our opinion that the bone was fractured, and so it proved; separation of the ends of the bone took place in a fortnight; afterwards, we set the limb, and the cow is at present doing well.

We have attended many cases of fractures in cattle, and they get well in the majority of instances; in some of them, afterwards, an ordinary observer would not tell the animal had had a fractured limb. Mr. Cox tells me, he has attended two horses with broken legs, and that they are in work now, unless dead recently.

HYDROPHOBIA IN A COW.

By Geo. Lewis, M.R.C.V.S., Monmouth.

Dear Sir,—On the 13th inst., I was requested to see a cow, the property of an extensive farmer near this town.

Upon my arrival, he gave me the following history of the case:

"On the 15th ult., the calf from this cow, tied in an out-house, was severely bitten in the nose and mouth by a dog, it was believed, although none was seen. But the cattle which were in the same meadow were in a very excited state, lowing and bellowing, as also did the calf, and upon the arrival of the shepherd, who hastened to the spot, he found the calf much torn, and the cow *with blood upon her nose*. The calf, from this period until the 27th, could not take its milk in the natural manner, and was obliged to be drenched, but from the above date, the wounds having healed, and the animal apparently recovered from the injuries it had received, it was turned to the cow, and took its milk in the usual way, which it continued to do up to the 31st, at which period *the teats of the cow were bitten by the calf*. From this date the calf became very ill, appeared to have sore throat, made a very peculiar noise, a kind of half bellow and roar, continued to get worse, and died on the 3d inst. I did not see him, but such is the description given to me by Mr. J—, and I know that it is a faithful one.

My attention was now directed to the cow. She was observed yesterday to separate herself from the others, and to bellow occasionally. But this morning she was seen to foam greatly at the mouth, and appear much excited. The other cattle also would not associate with her, but kept at a respectful distance, with their heads and tails erect. She was now brought to the house, at which time I first saw her.

She was standing—the eyes were half-closed—she appeared to be in a kind of stupor, or half comatose state—extremities, natural temperature; respiration, natural. She was looking rather thin; she was always a remarkably quiet creature, but now the least noise appears to greatly agitate her. The human voice, or the slightest movement, is sufficient to cause her eyes to glare, and set her bellowing, which ends in something between a growl and a roar. A person whistling, or the bark of a dog, produces fearful excitement. These paroxysms also appear to come on spontaneously; at their termination, the eyes again become half-closed, the abdominal muscles tremble, the respiration is slightly quickened, and the pulse is quick and tremulous. I requested that some water might be brought. Upon presenting it to her, she plunged her nose into the bucket. *But could not drink, deglutition could not be performed*, and in making the effort, the water came back through the nostrils. The effect of the attempt was productive of fearful consequences. It

appeared to produce intense agony. So great was the spasm, that the head was brought into a line with the body, the eyes rolled and glared fearfully, the nostrils dilated, and a saponaceous fluid poured from them, and the mouth was covered with foam.

I informed Mr. J— as to the nature of the case, stating that I had no hesitation in pronouncing it to be a case of hydrophobia. But, as he did not wish to have her destroyed, and was very anxious that I should give her something, and watch the case, I merely ordered a purgative, combined with a little febrifuge medicine: at the same time, pointing out the propriety of being cautious while administering the medicine, and the probable impracticability of it, which was verified.

Sept. 14.—All the symptoms of yesterday are aggravated intensively. The eyes have still a heavy appearance, when suddenly they appear like two brilliants. I observe that the spasm is more severe, and that she bites the woodwork of her stall.

Sept. 15th.—Much worse; the cornea of the left eye in its centre is become opaque, and appears as though nitrate of silver had been applied to it. She sometimes lies down, but gets up again, and roars; upon a person present putting his foot near her mouth, she made an effort to seize it, uttering a growl. She died this evening.

Post-mortem Examination 17 *hours after death.*—The brain—its substance appeared healthy. The pia-mater showed intense inflammation in small patches, its vessels generally were very fully congested.

The larynx showed traces of intense inflammation, as also did the membrane lining the trachea throughout its entire length, and was most beautifully spotted, as was also the lungs, plura pulmonalis, pericardium, and heart. The coats of the first and third stomachs parted upon the slightest touch in patches. The abdominal viscera also was similarly spotted, as was the diaphragm, &c., although not so thickly as the respiratory organs.

I remain yours truly.

ALLOPATHY *v.* HOMŒOPATHY.

A note on 'Mr. Haycock's Observations on Homœopathy,' which appeared in 'The Veterinarian' for September, 1854. *By Finlay Dun: Edinburgh Veterinary College.*

Mr. Haycock commences his paper of last month with the serious charge, that I desire to abandon the discussion on homœopathy—which has been continued for several months in these pages. I admit the charge. I believe that further discussion were not only idle and unprofitable, but almost a libel on the judgment and common sense of the readers of the '*Veterinarian*.' To them, and to the profession, I most willingly refer the case, in perfect confidence that the facts and arguments adduced on both sides will receive their careful and unprejudiced consideration.

In Mr. Haycock's last communication, he exhibits a curious opacity regarding certain passages in my last paper, which, however, I humbly submit, are perfectly intelligible to those who choose to understand them. Many of the statements previously advanced, and already exposed, are here reiterated and supported by cases and reasoning, which, however ingenious, are neither pertinent nor conclusive. Dissevered from the clever witticisms with which Mr. Haycock seasons his productions, they will be found to consist of dogmatic crochets and extravagant inconsistencies. Mr. Haycock seems, indeed, to have found the principle of homœopathy so indefensible, and his previous position so untenable, that, in his last paper, he adopts that last and lowest shift open to an unfortunate disputant, he avoids the subject in hand, and indulges in personalities. I should be sorry to demean myself by repaying Mr. Haycock in kind, and can easily afford to permit his polite remarks to pass for what they are worth.

In concluding, I must thank Mr. Haycock for the unexpected publicity which his critical observations have given to my book, and also, especially for the liberality with which he has been graciously pleased, from the heights of his critic chair, to bear his disinterested attestation to its merits.

VETERINARY JURISPRUDENCE.

Strafford Assizes.

LATHBURY *v.* EARLE.

Mr. Keating, Q.C., and Mr. Whitmore, appeared for the plaintiff; and Mr. Alexander, Q.C., and Mr. Phipson, were counsel for the defendant.

Mr. Keating, in stating the case, said that the plaintiff, Mr. John Lathbury, was a large dairy farmer at Stretton, in this county; and the defendant, Mr. Thomas Earle, was a railway contractor, who, in 1852 and 1853, was engaged in making a railway from Burton to Tutbury, the line passing near to the plaintiff's farm at Stretton. There was a mode of pickling the wood used in making the line in a strong mixture of creosote, and for this purpose the defendant had a tank at Stretton, very near to the plaintiff's farm. After the permanent way had been laid down, the stuff in the tank had to be got rid of, and Mr. Earle's men proceeded to pump it out into a culvert, which passed under the canal and to a water course going through Mr. Lathbury's fields, where he had a watering place for his cattle. This was in the autumn of 1852, when Mr. Lathbury had the cattle tied up. In April, 1853, he turned the cattle out into the field adjoining the watering place, and very soon afterwards the effects of the poison were apparent. The mouths of the cows became burnt and black, and their hocks were also affected. The symptoms becoming alarming, a veterinary surgeon was sent for, and an examination took place, from which it was apparent that the cows had been injured by the water. The cows went back in their milk, which, as the jury were aware, must have been a great loss to the plaintiff. Mr. Lathbury applied to Mr. Harrison, Mr. Earle's agent, who promised to have the watercourse cleansed out, and in the mean time he requested Mr. Lathbury to put the cows into some meadow land which he had put up for grass. The cows were kept in the meadow for a month, when they were returned to their former pasture, but they never recovered their milk. They would hear from Mr. Lathbury the loss which he had sustained, both by the diminished quantity of milk, and through having had to put the cows for a month into grass intended for mowing, and for the recovery of which this action had been brought. Some negotiations had been carried on with

the view of coming to an arrangement, but they failed. He scarcely knew what defence there was to the action, but he understood that an attempt would be made to show that the cows suffered from an epidemic disease, but he should prove that the symptoms did not at all correspond with those of the disease called the "mouth complaint." The learned council then proceeded to call witnesses.

Robert Peace, labourer, deposed that he was employed in 1852, by Mr. Earle, in making the railway from Burton to Tutbury. The farm of the plaintiff abutted on a canal, and on the other side of the canal the defendant had a tank in which the pickling of timber for the railway was carried on. When the railway was finished, he assisted, in August, 1852, to empty the tank, and the stuff which was pumped out ran through a culvert, under the canal, and into the watercourse running alongside the plaintiff's grounds.

Mr. John Lathbury, the plaintiff, was next examined. He stated that he kept his cows tied up during the autumn of 1852, and the following winter, and on the 28th of April he turned 30 cows out into some fields near the canal. There was a watercourse adjoining the land, which ran, after it left his farm, on to lands in the occupation of Mr. Hodson, Mr. Upton, and Mr. Page. After the watercourse left his fields it was joined by another stream before it got to Mr. Page's lands. The cattle, when they were turned out into the grounds, were healthy and vigorous, but five days afterwards they exhibited symptoms of disease. Their mouths were black inside, and their hocks were affected. They fell away in their milk. He sent for a veterinary surgeon, and believing that the cows had been poisoned by the water, he called upon Mr. Earle's manager, Mr. Harrison, who sent some men to clean out the watercourse. The men cleaned out the course the length of his fields, and also his watering place, but they did not clean out the culvert under the canal. Mr. Harrison promised him compensation, and he put the cows into a meadow which he had saved for mowing. He kept them in the meadow nearly a month, when he put them back into their old pasture. The cows fell off very rapidly in milk, and they did not recover till after they had calved. He was in the habit of selling his milk, which he sent to Birmingham, for 7*d.* a gallon, and he calculated the milk which was deficient at upwards of seven thousand quarts. For the first three months he estimated his loss by milk at £182 odd, and for the four following months at £204. He calculated that the cows ought to have given during May, June, and July, 16 quarts a day each, and in the four following months, 10

quarts a day each. Instead of having 30 cwt. of hay an acre off the meadow, he had but 15 cwt., and the loss on the hay he calculated at £40. There was, however, £30 to be deducted from the loss by the milk, for some cheese which he made, and for milk used on the premises. He gave some samples of the water, and the mixture in the water course, to Mr. Bernhays, of Derby, to analyse.—On cross-examination he stated that some of his neighbours' cows were afflicted in April, 1853, with what was called the mouth complaint; they had running from their mouths, and were blistered inside the mouth; but his cows had not the running from the mouth nor the blisters. In the spring of 1852 his own cows had the mouth complaint. For a short time in the autumn of 1852, he kept some bull calves, some sheep, and a few horses in the fields adjoining the watercourse.—On re-examination he stated that he never knew an instance of cows having the mouth complaint two years in succession.

Joseph Moss, cowkeeper, in the employ of the plaintiff, deposed that when the cows were turned out in April they became ill, and their milk fell off. The place in which the cows were milked smelt of tar.

Mr. John Bretton, brewer and dairy farmer, was next examined. He stated that he saw Mr. Lathbury's cows in 1852, and they were above an average quality. He saw the cows after they were turned out in April, and he found them discoloured about the mouth, as though they had been burnt by some substance; their teats and hoofs were also discoloured in a similar manner. The estimate of the quantity of milk the cows should have produced, as given by Mr. Lathbury, he considered to be a fair quantity for cows of that quality.

Thomas Flack, who had been in the employ of Mr. Earle, stated that he assisted in cleaning out the watercourse. The men engaged in the work had their hands, arms, and faces blistered by the stuff which they took out of the water, and which had come from the tank.

Henry Hartshorne gave similar evidence to the former witness.

Mr. Thomas Heath, of Burton, was next called. He stated that he had been a cow-leech for 20 years. On the 3d of May he was sent for by Mr. Lathbury, and he found his cows suffering from a kind of inflammation of the mouth, udder, and hoof. The symptoms were not at all like the mouth disease. On cross-examination, he stated that he attended some of Mr. Lathbury's cows in 1852, which were suffering from the mouth disease, and one of them was so ill that he directed it to be killed.

Mr. Wm. Robinson, veterinary surgeon, of Tamworth, stated that on the 16th of May, 1853, he was called in to see Mr. Lathbury's cows, which he found in an unhealthy state. Their mouths, legs, and teats were discoloured. He saw the stuff which had been taken out of the watercourse, and it appeared to be a compound of gas tar mixed with mud. Creosote would interfere with the general health of the cows, and would interrupt the secretions of milk. On cross-examination, he said that some persons applied tarto the hoofs of animals, but it ought never to be so applied. On re-examination, he said that the symptoms exhibited by Mr. Lathbury's cows, when he saw them in May, 1853, did not correspond with those of the mouth disease.

Mr. A. J. Bernhays, of Derby, Fellow of the Chemical Society, stated that in January last Mr. Lathbury brought to him a bottle of mixture, which, on examination, he found to consist of gas tar, tar oil, mud, and water. On the 4th of July last he went to Mr. Lathbury's farm, and examined the watercourse, and in several parts of it he found creosote. As creosote was heavier than water, it sank to the bottom, and would naturally become stirred up by cattle going into the water. In the culvert under the canal there was a large deposit of creosote. Insect life, as well as fishes, would be destroyed by creosote, and it was injurious to the health of large animals when taken into the system.

Mr. Charles Spooner, Professor in the Veterinary College, London, was next examined, and he stated that the effect of creosote would be to suspend the secretions of the body, and especially the secretion of the milk. He had heard the symptoms exhibited by the cows described by the witnesses, and they were in some respect analogous to those of the mouth disease, but they were not accompanied with two important features of the mouth disease, the blisters and the running.

Mr. Alexander, Q.C., then addressed the jury on behalf of the defendant. He said that they ought to have been informed what the contents of the tank were, and not leave it to be inferred that they were the same which had been found in the watercourse. There were some extraordinary circumstances connected with the case. They had heard that some young stock were placed in the field adjoining the watercourse, and it did not appear that they had suffered, and it was therefore extraordinary that cattle placed in the field in the following spring should be injured by the contents of the watercourse, after it had been washed by the rains of winter. This fact would also strike them the more strongly,

when he proved to them that the cattle of other persons drank from the same stream and were not injured. Was it not probable, he would ask them, that the cows had the remains of disease in them, as they had heard that they were ill in the previous summer, and after being nourished in the winter, it broke out on the cows being put to grass in the spring? Mr. Spooner, who had been called by the plaintiff, had himself told them that the symptoms were somewhat analogous to those of the mouth disease. He should show them that Mr. Hodson's, Mr. Upton's, and Mr. Page's cattle, which drank of the same stream, were uninjured, and therefore it was most extraordinary if the disease in Mr. Lathbury's cows was occasioned by the water. It would be for the jury to say whether the disease of the cows was occasioned by any act of the defendant's, and in the event of their coming to the question of compensation, he must ask them not to take Mr. Lathbury's estimate, which certainly appeared to him to be an exaggerated one, but to rely on their own judgment. The profits of a dairy farmer were enormous, if Mr. Lathbury's estimate was correct. As it respected the hay, too, he could not believe that one month would make a difference of 15 cwt. an acre. The learned sergeant concluded by saying, that, after calling witnesses on behalf of the defendant, he should leave it to the jury to decide between the parties.

Mr. Joseph Page, farmer, of Stretton, was then examined. He stated that the field in which the tank was belonged to him. There were cattle left in the field at the same time as the tank was there, and occasionally after rain the tank overflowed, leaving a deposit of gas tar on the grass. The cattle drank of the water in the stream into which the tank was emptied, but they did not sustain any damage. In May, 1853, a large number of cows suffered from the mouth disease. On cross-examination, he stated that he refused to allow a surveyor to take the level of the watercourse, and that Mr. Harrison, Mr. Earle's manager, married his daughter. In reply to a juryman, the witness stated that there was also some pure water to which his cattle had access.

Mr. Wm. Upton, farmer, stated that the watercourse, after leaving Mr. Lathbury's field, ran by his farm; his cattle partook of the water, but were not injured. On cross-examination, he said his land was half a mile from Mr. Lathbury's.

Mr. Chas. Morgan, who was in the employ of Mr. Earle in 1851, stated that he gave directions for the tank to be

emptied. He caused the water to be dammed up near the culvert on Mr. Lathbury's side while the tank was being emptied, and afterwards the contents were let off with a flush. The men in lifting some machinery out of the tank had their hands covered with the stuff in the tank, but it did not burn them. On cross-examination, he said that a horse on one occasion fell into the tank and was killed.

George Perry, a labourer employed on the railway, deposed that he had seen some of Mr. Payne's cows enter the stream; he did not see them drink as he drove them out.

Mr. Keating then replied on behalf of the plaintiff. He said there was no doubt that the contents of the tank—creosote and oil of tar—had been emptied into the stream, and that it was through the plaintiff's cows drinking the poisoned water that they were injured.

His *Lordship* then summed up in favour of the plaintiff.

The jury retired to consider their verdict, and after being absent half an hour returned a verdict for the plaintiff—damages £266 8*s*.

The above case occupied the attention of the Court nearly five hours.

STROUD COUNTY COURT.

(*Before James Francillon, Esq., District Judge.*)

William Teakle *v.* Charles Hodgson.

This was an action to recover damages for a breach of warranty of a chesnut mare, the defendant having, as alleged, sold the mare to plaintiff under a warranty of her being both sound and in foal. Mr. Teakle is a farmer residing at Abnash, near Chalford, and the defendant carries on business as a coal merchant, &c., at Brimscombe. Mr. Symons (instructed by Messrs. Edwards and Freston) appeared for the plaintiff, and Mr. Kearsey for the defendant.

Mr. Symons opened the case by calling the plaintiff, who stated that he bought a chesnut mare of the defendant on the 8th of April last, under a warranty that she was sound and in foal, and paid him £20 10*s*. for the animal; he had no knowledge of horses himself, but subsequently a man named Mason directed his attention to the mare, and from what he said he examined her and tried to cough her but could not: Mason said the mare was unsound and not in foal, and

plaintiff, accompanied by Mr. Jasper Gardner, went and told the defendant so, but did not ask the defendant to take the mare back: on the 30th of May he sent the mare back to Hodgson, and saw him in the evening and offered to return the mare and allow £5, or to keep her on the proviso that Hodgson paid him £5.—In his cross-examination, witness stated that he had not worked the mare half her time, and had only once put her in waggon shafts; he had not turned her into a steep field, nor did he hear Hodgson say that at the time he purchased the mare she was all right and sound to the best of his knowledge: Mr. Jasper Gardner said the mare did not look like a mare in foal, as she had no udder, and he (witness) did not see any milk drawn from her.—In his cross-examination he stated that the mare could not have slipped her colt without his knowledge, and also that the defendant had made him an offer of £1 or have the mare put to horse again.

Mr. Jasper Gardner, a farmer living at Chalford, had known the mare ever since she had been in Mr. Hodgson's possession, and never considered her broken-winded, but he thought the value of the mare depreciated £5 by her not being in foal. In answer to Mr. Kearsey he stated that at the time the plaintiff purchased the mare he said that if he had not bought her he (Mr. Gardner) should; he did not recollect Mr. Hodgson saying anything about a warranty to the best of his knowledge.

Mr. Thomas Hawkins heard Mr. Hodgson say he warranted the mare sound and in foal to the best of his knowledge. In answer to Mr. Kearsey he stated that he was present when the bargain was concluded between the plaintiff and defendant, and heard the latter say, "I'll warrant her sound as an acorn, and in foal to the best of my knowledge;" the mare appeared to be in foal, and he did not observe anything the matter with her wind.

Mr. Symons then called James Mason, a horse doctor of the old school, who stated that when he saw the mare in the plaintiff's stable, he told him there was no foal in her, and her disease lay in the lungs; he tried to cough her but could not, but he knew the mare was diseased as she heaved so much in her belly; he had previously known the mare in Mr. Hodgson's possession, as at one time he asked him to put her in his stable as he should not like her to catch cold to hurt her wind.—In his cross-examination, he said that he examined the mare five weeks ago, and in his opinion she had not warped; sometimes horses breathed hard from cold, and various other causes.

By his *Honour:* The mare has what I term purification of the lungs—that is, they are all of a froth.

Mr. Thomas Price, a veterinary surgeon (?), living at Tetbury, examined the mare on the 3d of July, and considered her to be unsound, as she was suffering from a disease of the lungs, which he considered of a chronic nature, and described as a condensation or hardening of those parts; he considered the disease had been visible on examination for twelve or eighteen months, and at that time a common observer would notice it in the condition of the mare's flanks.

Mr. Kearsey, at this stage of the proceedings, submitted that no warranty had been proved justifying the present action being brought, as the words "to the best of my knowledge" had been used by his client, and it had not been proved that he had a knowledge that the mare was not in foal.

Mr. Symons, reviewing the evidence adduced, contended that there had been a warranty, and taking the words used by the witness, Hawkins, according to their grammatical construction, defendant "warranted the mare as sound as an acorn, and in foal to the best of his knowledge."

His *Honour* ruled that the disputed sentence was capable of a double construction, and Mr. Symons had a right to take them as warranting the mare sound, therefore Mr. Kearsey's application for a nonsuit fell to the ground.

Mr. Symons then called *George Goddard* to prove that when he took the mare back to Hodgson on May 30, he said "Keep her till her time is out, as I'll warrant she's in foal; she has now something the matter with her wind."

Other witnesses were called to prove the mare broken-winded. This closed the plaintiff's case, and Mr. Kearsey then called

Mr. Charles Hodgson, the defendant. He stated that he bought the mare in October, 1852, and she had all the appearance of being in foal; there was nothing the matter with her wind, and he sold her because, being in foal, it would not do to put her to strong work; he warranted her sound and in foal to the best of his knowledge; Hawkins brought him and the plaintiff together about the price; on May 27th, plaintiff complained of the mare not being in foal, and Mr. Gardner, who was present with him, said she was wind-broken; he offered to return a guinea, but Teakle would not have it, and on the following Monday he saw the mare, which had nothing the matter with her wind, and he drew milk from her udder.—In his cross-examination, he said that he had been in the habit of buying colts, and getting them into con-

dition for sale, and denied that ever he had asked Mr. Mason to let him put the mare in his stable "for fear of her wind."

Two witnesses, named *Brown* and *Pearce*, deposed to the mare's appearance as being in foal, but never saw signs of her being wind-broken.

John Hodgson, brother to the defendant, in his cross-examination, said that, in his opinion, had a colt been dropped it would not be likely to remain undiscovered unless there were bushes in the field; there were signs of the mare having done so, which he named to his brother, but was never asked about it by any one else.

Mr. Essex, the person who sold the mare to Mr. Hodgson, and also his carter, deposed that they never knew anything the matter with the mare's wind or lungs; and *Mr. Knee*, a coal-merchant in this town, said the mare had drawn a ton of coal up the road leading from his house to the Anchor, but he never observed anything the matter with her wind, and should have bought her but could not agree in price; the mare appeared in foal. In cross-examination, he stated that he offered £20 for the mare in the early part of April.

Charles Radcliffe corroborated the evidence as to the soundness of the mare's wind, and her appearance as being in foal, and remarked that there being a great many bushes in the plaintiff's field, the mare might have foaled among them.

Mr. Marsh, veterinary surgeon, examined the mare on May 30th, and stated, that at that time she had no symptoms of chronic cough, or disease of the lungs; he applied the usual tests, and minutely examined her.

By his *Honour*—Did not use the stethoscope.

Mr. Morey corroborated the last witness's evidence, adding that the mare appeared as if she had slipped her colt. In cross-examination, he said he tested the mare to see whether she was sound, not whether she was unsound.

Mr. George Brown, veterinary surgeon at the Royal Agricultural College, Cirencester, said that he had examined the mare on June 5th, with regard to her lungs and wind, and considered her lungs perfectly sound. In his cross-examination, he stated that it was common for horses to have diseases of the lungs without being broken-winded; should *not call a horse unsound if it had ossification of the larynx as it may not be known until dissected;* he had advised the parties to settle the matter, and he considered the plaintiff's offer of £5, give or take, was a fair one; witness saw no indication of the mare having warped, and he had not recommended a compromise on account of the unsoundness of the mare.

In answer to his *Honour*, Mr. Brown said he had tried to cough the mare, but could not succeed; he did not attach much importance to that after a horse had arrived at six years of age.

Mr. Kearsey then referred to the evidence of the different witnesses, and submitted that there was no breach of warranty of soundness in this case. Mason had been the cause of the mischief, in volunteering an opinion upon the mare on seeing her in the stable, and he contended that no importance could be attached to Mr. Mason's testimony upon the point of soundness. Mr. Price had stated that the disease was apparent to the common observer, and did not require scientific examination, yet looking at the evidence of the witnesses he had called, and after his *Honour* had heard the whole case, he relied on a verdict being returned in his client's favour.

Mr. Symons contended that there could not be a doubt about the warranty, and he asked his *Honour* to give great credit to Mason's testimony. The unsoundness did not consist in broken wind, but in a disease akin to bronchitis, and after Professor Brown had made an examination of the mare, he advised the parties to compromise the matter.

His *Honour* said his mind had not undergone any change during the proceedings as to the warranty of the mare's being sound, and the words "best of my knowledge" only referred to the mare's being in foal. Though they were used by the defendant to avoid a warranty, he did not effect that intention by using such an imperfect sentence. The case was, therefore, reduced to one question, a warranty in respect of soundness, and whether or not there had been a breach of that warranty. His *Honour* then went carefully through the evidence, and referred especially to Professor Brown's, which had led him to the conclusion that the horse was sound.

Judgment was then given for defendant.

NISI PRIUS COURT, SATURDAY.

(*Before Mr. Justice Cresswell.*)

BROWN *v.* SHAVE.

Mr. Worlledge opened the pleadings, and Mr. O'Malley stated the case for the plaintiff.

Both parties are veterinary surgeons at Sudbury, and this action was brought to recover damages for breach of a contract, whereby the defendant bound himself not to practise within seven miles of Sudbury, under a penalty of £500. The action was brought by direction of the Court of Chancery, to try whether he did promise as stated in the declaration. The plaintiff was a veterinary surgeon of very long standing in Sudbury, and in 1844 defendant became his apprentice, and the usual stipulation was entered into, that he should not practise within a certain distance of Sudbury after his articles expired. He was bound for four years, and in 1848, the plaintiff entered into partnership with him. The material clause in the articles of partnership was that if either of the parties should be desirous of dissolving the co-partnership after a term of six years, by his giving six months' notice, it should be accepted, and the party giving notice should not after such dissolution set up in business within seven miles of Sudbury, under a penalty of £500. The partnership was a very advantageous one for the defendant, he had no capital when he entered into it, and the business was considerable, bringing in an income of £500 a year: defendant was to live in the house, to be boarded at the expense of plaintiff, to have £20 for horse-keep, and one third of the profits. At the beginning of 1852, the plaintiff had a very serious illness, and some proposals were made to alter the partnership arrangement, but in the course of that year plaintiff made an arrangement for an assistant. In August, 1853, offers were made by defendant to withdraw from the partnership, but the great object at which he was always aiming, was to get rid of the undertaking not to practise within seven miles. After several fruitless attempts, Mr. Squire, who was employed by the plaintiff, had a conversation with defendant, who agreed that he could not practise within seven miles under the penalty, and said if plaintiff would pay him his share of the profits he would go right away. The plaintiff agreed to this, and to submit all questions to two parties to decide between them; plaintiff appointed Mr. Squire, and defendant employed Mr. Rolfe, who appointed Mr. Blunden as their umpire. Mr. Blunden made an award which was afterwards signed by both parties, and which alluded to the agreement of June 1848, in which there was not a single clause applicable to a dissolved partnership, except the 11th. Mr. Blunden's award ran thus:

"Mr. Squire and Mr. Rolfe having agreed to leave the settlement of these matters to me, I have carefully examined the different accounts relative thereto, and my award is that

the sum of £82 be paid over to Mr. Shave, and on his receiving the above amount, he shall in every way act up to and fulfil the partnership agreement entered into on the 20th of June, 1848, and further that this agreement shall be conclusive between both parties."

The £82 was paid, and the defendant called on some of his former clients and told them he was not going to practise any longer in Sudbury, in consequence of the penalty which he was under; but shortly afterwards some of his friends persuaded him that the document was informal, and he set up in practice for himself. Mr. O'Malley called the plaintiff, but he was so ill that after a few questions his examination was discontinued.

Mr. Richard Squire, auctioneer and accountant, of Sudbury, deposed that whilst he was making up the plaintiff's accounts, defendant told him he was tired of disputing with the plaintiff, and had no objection to leave, but he would not dissolve unless relieved from the penalties for practising within seven miles. To this the plaintiff refused to consent, and ultimately defendant agreed not to practise within the distance, and said he would go away, and would be satisfied with his share of the profits, to which Mr. Brown assented. There were some disputed accounts, which it was agreed should be settled by arbitration; witness was appointed by plaintiff, and Mr. Rolfe by defendant, and Mr. Blunden was named as umpire. When the award was made, Mr. Blunden said, "You recollect, Mr. Shave, when you receive this money you are not to practise within eight miles of Sudbury." Mr. Shave said, "I beg your pardon, seven miles" —to which the plaintiff assented. The £82 was paid to defendant under the award, and a further sum of 10*s.* for business done between Sept. 29 and Oct. 6.

In cross-examination, witness said he was now in partnership with Mr. Blunden, but at that time he had no idea of it. He knew that Brown required £100 from defendant for breaking his apprenticeship articles by practising within seven miles, and obtained from his aunt all but £30, which he understood was stopped in consequence of a debt due from Brown to the aunt.

Mrs. Brown corroborated the evidence of Mr. Squire as to Shave's acknowledgment of his being bound not to practise within seven miles. Her husband was in great affliction.

Cross-examined;—In 1852, the defendant went to Worcester, but was telegraphed to return, owing to her husband being seized with sudden illness, after which, he was nearly incapable of business, and till the negotiations it was almost

entirely conducted by defendant. She did not know where the apprenticeship indenture was.

Re-examined;—In July, 1853, a person named Sewell was employed to assist, and afterwards another person.

H. Prigg, gardener, and *A. Webb*, innkeeper of Cornard; *Joseph Bridge*, of Bulmer; and *George Harding*, all deposed to the defendant's having told them about last Michaelmas that he was under penalties against practising there.

Mr. Serjeant Byles, for the defendant, after some technical objections to the declaration, which were overruled, said that nothing was further from the intention of his client than to expose himself to an action for £500, by practising in the very sight of the plaintiff, without the means of meeting the demand. In his experience he never met with a case in which, upon a parole agreement, any question had arisen with respect to a penalty. If his learned friend should succeed on this parole evidence, it was clear that the defendant would have to pay the £500; but behind that was a more serious question, having paid the £500, he would still be unable to practise at Sudbury. He doubted whether his lordship had ever met with an instance in which a man, by word of mouth had agreed to bind himself to pay £500 in a case like this. His client was a very young man; he had lost his father and mother, but he had an aunt at Bungay, who, out of her humble means, had apprenticed him to the plaintiff, in 1844. On that indenture she paid £150, besides which the plaintiff took from her a bond that the young man should not practise, after his indentures expired, within eight miles of Sudbury, and that she was to pay £100 penalty if he did. This penalty had been exacted, and was at this moment a debt from defendant to his aunt. The young man passed through his apprenticeship in a most creditable manner, and the best proof was that his master agreed to take him into partnership. The first thing his client discovered was that Mr. Brown was in a state of insolvency, in consequence of which he assigned his estate for the benefit of his creditors. It was a cruel thing when a young man entering life found himself tied and bound to an insolvent partner. Further, Mr. Brown was certainly not a teetotaller, and the defendant, if he had one third of the business, had a great deal more than two thirds of the work. There were disputes, and violent language was used between them; in one instance Mr. Brown lifted his stick to strike the defendant; under these circumstances it was quite impossible that the partnership could continue. Mr. Squire had told them that Shave was determined to go, but was

reminded he could not go, as there was a penalty; but that did not bind him till *after* the first six years of the partnership. He was liable to a penalty of £100 under the apprentice indenture for practising within eight miles of Sudbury; but the penalty under the articles of partnership would not begin till nearly a year after the transactions under inquiry. In his conversations with the defendant, Mr. Squire meant the penalty under the indenture of apprenticeship, though he had been careful to say in his evidence "articles of agreement," and to state "seven miles," the distance mentioned in the articles, while the indenture mentioned eight miles. In August, 1854, the defendant proposed that the partnership should be dissolved, and would swear that, in the conversation with Mr. Squire about leaving, he never said anything about the penalty under the articles of partnership, but referred to the penalty under the apprenticeship indenture. Mr. Rolfe, the arbitrator, would state that nothing of the kind occurred. The question for the jury was whether the plaintiff and those who represented him meant the penalty under the articles of partnership, or whether they meant that under the indenture; the defendant would swear that he did not consider himself liable under the articles, and this was shown by his putting out circulars, stating that the partnership was then dissolved, and asking for patronage, and practising under the eyes of his master and of the county. Mr. Browne had pulled him up for £100, and now asked for £500 penalty, which, if plaintiff succeeded, the defendant would have to pay; but the more serious question was behind, whether, after he had paid it, he would be at liberty to practise in Sudbury. After all, the real question for the jury was whether there was an agreement extraneous to the written document.

At this point, the case was adjourned till Monday.

Monday.—This case, which was commenced on Saturday, was called on this morning, but could not be proceeded with in consequence of the absence of the attorney and witnesses for the defence.

His Lordship remarked with much severity on the non-attendance of the parties concerned, and expressing his opinion that there was evidence enough for the case to go before the Jury, directed them, the evidence being uncontradicted, to return a verdict for the plaintiff.

Verdict for the plaintiff, damages £500.

Suffolk Chronicle.

REVIEWS.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Blaine's Outlines of the Veterinary Art; or Treatise on the Anatomy, Physiology, and Curative Treatment of the Diseases of the Horse, &c. &c. By Edward Mayhew, M.R.C.V.S. London: Longman and Co., 1854. 6th edit. Thick 8vo., pp. 668.

In following up our task, and taking a leap, with our review of the "Outlines," from the Anatomico-Physiological department into that of the "Practice of Veterinary Medicine,"—*the Medical Department*, as it is usually called—we so far find the labours of the editor decreased and relieved, as, on the one hand, to make it appear not near so actively engaged as before in pruning and fresh modelling a work, every page of which, at the commencement, bore evidence of much need of "revision" and "improvement;" in proof whereof, we shall transcribe from such part of it a couple of examples; one describing a common organic or constitutional disease, the young horse is not unfrequently the subject of; the other, a local ailment, which nowise interferes with the general health, but is apt to occasion impediment to action or going, under the name of "lameness," of the worst and most irremediable description. We shall represent the descriptions of these diseases under the old and new formulæ, commencing with—

INFLAMMATION OF THE LUNGS.

Mr. Blaine's Account.

"Peripneumony, or inflammation of the lungs generally, was long a great stumbling-block to the practitioners of the old school; the devastating effects on these organs, seen in such as had died of it, being usually mistaken for the effects of some chronic affection of a *rotting* tendency. A more extended acquaintance with the art has not only taught us the true nature and

Mr. Mayhew's Account.

"Inflammation of the lungs was long a great stumbling-block to the practitioners of the old school; the devastating effects on these organs, seen in such as had died of it, being usually mistaken for the effects of some chronic affection of a *rotting* tendency. A more extended acquaintance with the art has taught us the true nature and progress of the disease; but it appears also to

progress of the disease, but it appears also to have produced a conviction in the minds of many veterinarians who wavered on the subject, that pleurisy, independent and distinct from pneumonia, may and occasionally does exist in the horse; and that therefore, in a systematic point of view, it is proper to consider it under the distinct heads of *pneumonia* and *pleuritis*, to which also I would add that of *pneumo-pleuritis*, as no one will deny that the character this implies is by far the most usual form of the disease; and he who is fortunate enough to treat this successfully may leave the other two to his neighbours.

Pneumonia or *inflammation of the substance of the lungs.*—Under this I shall treat in detail on the causes, symptoms, and cure, as a type applicable to the three varieties; and premise the account by observing, that when we consider how totally we have removed the horse from a life of nature to one of art, in which the lungs, although more important than most, and certainly more vascular than any other organs, are subjected in an extraordinary degree to the extremes of exertion and temperature, we cannot be surprised that they should in a greater degree form the seat of acute inflammation.

Causes.—The *predisposing* may be looked for in constitutional plethora, occasioned by high feeding, hot clothing, stabling with high temperatures, and constant accelerated exercise, all which render the lungs more susceptible to congestion, and less able to resist the effects of it. The *proximate* are numerous; among them *alternations* between heat and cold are probably the most common; and we have more reason to believe that it is the alternations themselves, as we find that horses bear the extremes of both heat and cold, by their geographical distribution, with equal impunity. Under this view we are led to conclude, as well by reason as by fact, that the alternations being the active agents, the injurious consequences are likely to

have produced a conviction in the minds of many veterinarians who wavered on the subject, that pleurisy, independent and distinct from inflammation of the lungs, may and occasionally does, exist in the horse; and that therefore, in a systematic point of view, it is proper to consider the various chest affections under distinct heads; to which also may be added that of pleuro-pneumonia, or inflammation of the lungs, and pleura, existing at one and the same time; as no one will deny that this is by far the most usual form of disease.

Inflammation of the substance of the lungs, or pneumonia.—When we consider how totally we have removed the horse from a life of nature to one at art, in which the lungs, more vascular than any other organs, are subjected in an extraordinary degree to the extremes of exertion and temperature, we cannot be surprised that they should in a great measure form the seat of acute inflammation.

Causes.—The *predisposition* may be looked for in constitutional plethora, occasioned by high feeding, hot clothing, stabling with high temperatures, and by accclerated exercise; all which render the lungs more susceptible to congestion, and less able to resist the effects of it. Among the various causes *alternations* between heat and cold are probably the most common; and we have the more reason to believe that it is the alternations themselves which provoke the disorder, as we find that horses bear the extremes of both heat and cold, in different countries, with seeming impunity. Heat suddenly applied may be supposed to heighten the circulation *generally*, and produce congestion *immediately* within the lungs. Cold suddenly

result from either change. Heat suddenly applied may be supposed to heighten the circulation *generally*, and produce congestion *immediately* within the lungs. Cold suddenly applied may irritate the bronchial aërating vessels: or it may act on them by disturbing the functions of the skin. In both these ways, drinking cold water when the body is hot may produce it. A very fertile source of it is also occasioned by inordinate exercise, either as regards its quickness of progression or the continuance of it; thus it frequently follows severe runs in hunting, and thus also horned cattle are liable to it, who, in a high state of condition, travel great distances to markets or fairs. A cause which partakes both of the nature of predisposing and proximate, is observed to particularly operate in some seasons: cold moist springs are often marked with pneumonic attacks, which rage in an epidemic or epizootic form.

Symptoms.—This disease sometimes attacks the horse very suddenly, and he exhibits, after one or two shivering fits, all the intensity of the complaint; at others, it steals on, and is almost unobserved for two or three days; but whether the approach be sudden or retarded, the general functions will appear disturbed. One that first shews itself is the unequalled distribution of heat, the legs and ears being much colder than the body. The coat stares, the horse loses his appetite, his lively air, and is evidently uneasy, and occasionally looks gently round towards his flank. In the early stages, the nasal linings look paler than usual frequently; but as it advances they become of a pink-like hue, and although the general surface of the trunk may vary in its temperature, the extremities, as the legs, ears, and tail, and sometimes the muzzle, will be found uniformly cold, often intensely so. Cough is by no means a pathognomonic symptom; many cases are without it, but when it does exist, it is at first short, dry, and frequent, but

applied may act instantly also by driving the blood from the skin to the deeper-seated organs. A very fertile source of it is also occasioned by inordinate exercise, as regards quickness of progression, which wears out the vital activity of the lungs; thus it frequently follows severe runs in hunting and thus also horned cattle, which are unused to any motion, are liable to it, when they, in a high state of condition, travel great distances to markets or fairs. A cause is observed to particularly operate in some seasons: cold moist spring seasons are often marked with pneumonic attacks, which rage in an epidemic form.

Symptoms.—This disease sometimes attacks the horse very suddenly, and he exhibits, with one or two shivering fits, the excited breathing which is symptomatic of the complaint; at others, it steals on, and is almost unobserved for two or three days; but whether the approach be sudden or retarded, the general functions will appear disturbed. One that first shows itself is the unequal distribution of heat; the legs and ears being much colder than the other parts of the body. The coat stares; the horse loses his appetite; is evidently uneasy, and occasionally looks gently round towards his chest. In the early stages the nasal linings look paler than usual; but as it advances they become of a leaden hue; and although the general surface of the trunk may vary in its temperature, the extremities, as the legs, ears, and tail, and sometimes the muzzle, are found uniformly cold. Cough is by no means a pathognomonic symptom; many cases are without it; but when it does exist, it is at first short, dry, and frequent, and becomes eventually heavy, thick,

becomes eventually heavy, thick, and painful, and occasionally some mucus with bloody striæ is thrown up in coughing, particularly when the bronchiæ participate in the affection. The respiration becomes disturbed as soon as the disease is formed; the first febrile attack will hurry it, but, the exacerbation of that over, it returns to its natural state. The local inflammation having pervaded the parenchymatous substance and lessened the calibre of the air-cells, respiration now becomes permanently quickened, the flanks are found to heave, and the breathing is carried on with labour and irregularity; the inspirations being delayed to retard the pain produced by the distension of the chest, while the expirations are more hurried to relieve the thorax from the distress. The cavity is, however, no sooner emptied, than a new source of distress in the congested state of the heart forces the horse to renew the effort. The state of the pulse is variable in this disease, according as the parenchyma or the reflected membranes bear the greatest share in the complaint, or as the thoracic cavities are unequally inflamed. It is, however, almost always quickened, sometimes to 100 even, from the irritative state of the aortic system; it is also in most well-marked cases small and oppressed, the pulmonary congestion preventing the free passage of blood through the right side of the heart. I have, however, occasionally found it moderately full and bounding, dependent probably on the membranous attack being greater than the parenchymatous. The horse is now seen to look more anxiously round to his sides, the whole body also seems stiff and sore: particularly elevating the head occasions great pain, and he is altogether disinclined to move; on the contrary, he stands fixed with his head extended forwards, his nostrils outstretched, his fore legs somewhat apart and forward, and he seldom if ever lies down, or if he does, he rises again quickly. The chest, if tapped with the hand, emits a dead sound, and painful; occasionally some mucus with bloody striæ is thrown up in coughing, particularly when the bronchii participate in the affection. The respiration becomes disturbed as soon as the disease is formed; the first febrile attack will hurry it, but the exacerbation of that over, it becomes simply laboured. The local inflammation having pervaded the substance of the lungs, thickened the lining membrane of the tubes, and lessened the calibre of the air cells, respiration now becomes permanently quickened; the flanks are found to heave, and the breathing is carried on with labour and irregularly; the inspirations being delayed to retard the pain produced by the distension of the chest, while the expirations are more hurried to relieve it from distress. The cavity is, however, no sooner emptied, than a new source of distress, in the stagnant condition of the heart, forces the horse to renew the breathing. The state of the pulse is variable in this disease, according as the lungs or the pleura bear the greatest share in the complaint. It is, however, almost always quickened, sometimes to 100 even, from the irritative state of the aortic system; it is also in most well-marked cases small and oppressed, the pulmonary congestion preventing the free passage of blood through the lungs. We have, however, occasionally found it moderately full and bounding, dependent probably on the membrane being more diseased than the substance of the lungs. The horse is now seen to look more anxiously round to his trunk; the whole body also seems stiff and sore: partially elevating the head occasions great pain, and he is altogether disinclined to move; on the contrary, he stands fixed with his head extended forwards; his nostrils outstretched; his fore legs somewhat apart but forward; and he seldom if ever lies down, or if he does, he rises again quickly. The chest, if tapped with the hand, emits a dead sound; while the ear applied to the side of the chest will detect a dull but more urgent murmuring.

while the stethoscope applied will give a dull but heightened rumbling, and by this may be gained whether the intensity of disease is equal on both sides. As the complaint increases, the pulse becomes still more oppressed and irregular, so as to present, at the region of the heart, nothing but the faintest flutter; the legs, ears, and muzzle, feel still more intensely cold, although partial sweats may visit the carcass. The nostrils change to a still more livid hue, and the air they expire is cold. The mouth now becomes cold and pale; convulsive twitchings affect the breast, neck, and face; the teeth grate, and death ensues earlier or later, as the disease has been more or less rapid; occurring sometimes as early as the second or third day, but more often between that and the seventh, and being sometimes prolonged to the fourteenth or fifteenth."

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From a constitutional, let us pass to a local disease.

SPAVIN.

"In the march of veterinary knowledge, each of its subjects will afford new matter for new views, as such become illuminated by the lights of anatomy and physiology, or are rendered familiar by experience. It is to be lamented, however, that, as each step is made, the progressor halts, and considers himself as having arrived at the *ultima thule;* Johnny Groat could not place a brick beyond him. For a time all join in his admiration, and see only as he sees, until another adventurer raises a new pedestal or gains a step beyond the former, and the rush of opinion then sides with him also; until another grade, or rather another theory, throws the last also into the same obscurity which has overtaken the former. It is thus that we are found continually vacillating: not halting between two opinions, but between twenty: not so much examining theories by patient research, as receiving them by faith in the theorist.

"*Spavin* is a very serious æquine affection: its destructive attack on the utility of the most valuable of our domestic animals has made it a subject of much importance. There is some peculiarity in the degree the fore and hind legs are disposed to take on disease. In the fore leg, for instance, splint occurs upon the inner side of the limb; in the hind leg, it is seen upon the outer side of the shank bone. Why is this difference beheld in the same disease? In the fore leg, we attribute splint to the weight cast upon one of the bones of the knee being entirely transferred to the inner small metacarpal. In the hock something of this sort occurs also upon the outer side, yet the small metacarpal bone there is not nearly so often affected; while the outer splint-bone, which takes little more than its share of weight, is the actual seat of the affection. Why is this distinction? Does not its existence show us we have not

"*Spavin*, as a very serious æquine affection, may be cited as an example of this: its destructive attack on the utility of the most valuable of our domestic animals has made it a subject of much importance in the veterinary art, and an arena for its disputants. Its nature and seat are not yet settled, although it has been recognised as a dire horse-evil for more than two thousand years. Its importance most certainly well deserves an attentive consideration; I will, therefore, sketch the prevalent opinions regarding it, and endeavour to extract *truth* and *practical instruction* as I and my reader proceed. The eminent veterinary writer whose general account of the nature, qualities, and diseases of the horse, give additional value to the *Library of Useful Knowledge*, offers his opinion of spavin in so instructive a form, that I cannot do the inquiring reader, who has not met with it, a more essential service than to condense it for his perusal. It is observed by this author, 'that the bones of the leg, the shank-bone, and the two little splint-bones behind, support the lower layer of the bones of the hock. The cube-bone rests principally on the shank-bone, and in a slight degree on the outer splint-bone. The middle wedge bone rests entirely upon the shank-bone, and the smaller wedge rests in a very slight degree on the shank-bone, but principally or almost entirely on the inner splint-bone. Then the splint-bones sustain a very unequal degree of concussion and weight: not only is the inner one placed more under the body, and nearer the centre of gravity, but it has almost the whole of the weight and concussion communicated to the little wedge-bone carried on to it. From this clear exposition he proceed to remark, that we need not wonder that the violent actions of galloping, leaping, heavy draught, particularly in young horses, should injure the inner splint-bone, its ligaments, or the substance which connects it with the shank-bone; which *pressure* is further increased, according to his yet hit upon the right cause. The artery, nevertheless, passes along the inner side of the fore leg, close to the seat of splint; and it likewise does the same upon the outer side of the hind leg, near to the place where splint in that member begins. Splint originates in inflammation. Inflammation is a disease of excessive vascularity. Can, therefore, the neighbourhood of the artery have anything to do with its production? It is not for us to answer the question.

All this, however, is foreign, it may be said, to our present subject—which is spavin. Coleman was possessed of far more cunning than wisdom; and he used to teach his pupils, when a lameness occurred in the fore leg, to swear it was in the foot; and when in the hind, to vow it was in the hock. So far as the mere fact of liability of the parts to be affected is concerned, the late professor was in the right. But whence spring this disposition in different parts to assume disease? Let us illustrate this by a kind of everyday example. A gentleman has two walking sticks; the one is straight, the other is bent at an angle in the middle. He uses this one day, and the other the next. They both consequently get the same wear. The straight one will become useless, because of its being battered at the point; and so the foot of the fore leg generally gives way in the limb which is straight. The other will yield at the part where the two lines meet, or at which the stick is bent; and so in the hind leg, the hock most feels and sustains the shock of motion. The artery crosses from the inside of the hock to the outer side of the hind leg, close to the inner and lower part of the joint, which Mr. W. Percivall defines accurately enough to be the seat of spavin. May not vascularity be the predisposing, and jar the exciting cause? In the formation of the fore leg can also be discovered a reason, for attributing to the foot greater vascularity than that of the hind limb. In the fore leg, the blood has only to pursue its

opinion, by calkins placed on the outer heel. 'The weight and concussion,' he goes on to add, 'which are thus thrown on the inner splint-bone produce, in the first place, inflammation of the cartilaginous substance which unites it to the shank-bone. The consequence of this is, that the cartilage is absorbed, and bone deposited; the union between the split-bone and the shank becomes bony instead of cartilaginous; the degree of elastic action between them is destroyed, and there is formed a splint of the hind leg. This is uniformly on the inside of the hind leg, because the greater weight and concussion are thrown on the inner splint-bones. As in the fore leg, the disposition to form bony matter having commenced, and the cause which produced it continuing to act, bone continues to be deposited, and it appears generally in the form of a tumour, where the head of the splint-bone is united with the shank, and in front of that union. This is called *bone-spavin*. Inflammation of the ligaments of any of the small bones of hock, proceeding to bony tumour, would equally class under the name of spavin, but with very few exceptions, the disease commences on the precise spot we have described.' In both cause and effect, Mr. Percivall and Mr. Youatt therefore regard spavin and splint as the same; it is the locality only which alters the name. But is the identity quite so clear? In the last edition of the VETERINARY OUTLINES I conceive that I also erred in straining this analogy too closely, by which wrong conclusions on the cause, seat, and consequences of the complaint may probably be formed. Mr. Percivall himself, seemingly aware of this, observes: 'If, however, the inflammation extends from this cartilago-ligamentous substance *i. e.*, that which connects the inner small metatarsal with the cannon) to the ligaments and bones of the hock, and terminates there in effusion of bony matter; or if the exostosis of the inner metatarsal bone itself is so placed as to disturb the motions natural course, or to fall from a height downwards, to make no mention of its being nearer to the heart. In the hind limb, the stream is impeded by making several bends in its course to the foot, placing entirely on one side the circumstance of its being further removed from the centre of supply. Can any inference be drawn from the foregoing statements? The reader is left to reply.

Spavin may be characterised as exostosis of some one or more of the tarsal bones, or ossific inflammation of the ligaments which connect them with each other. It may also be considered, *that it has no determinate seat*, but is much more often found on the inner, than the outer side of the hock. It is also true, that its effects are not to be measured by the dimensions of the exostosis, as these are sometimes great without corresponding lameness; and that it is a character of the affection founded on the lessened irritability and increased deposition which warmth, friction, and mental excitement occasion, to render the horse less lame as he progresses; which symptom will assist to distinguish it from other affections. A spavin of the cuneiform bones usually lames more than that which is lower down and joins them to the metatarsals. Neither do spavins, when arrived at a certain state, usually increase; consequently spavined horses for some purposes may prove useful. In moderate and slow work they are even frequently amended; but in bad cases the fear of lying down prevents their thriving. Thus post-masters and stage-coach drivers were not often willing to purchase badly spavined horses, or any others with permanent lamenesses behind, although they did not reject the foundered or groggy horse. Lamenesses before force the horse to lie down; those behind often hinder him doing so, owing to an instinctive dread, that when once down he cannot rise again; and the persons alluded to were well aware that the horse who lies most can work best.

"*Treatment of Bone Spavin.*—This

of this joint, *then does a spavin differ essentially from a splint.*' Mr. Youatt also observes on the spread of the ossific deposit; but, as seen, he considers the original seat of spavin and of splint as the same; and he evidently does the same by the cause also; the main truth of which cannot be denied: but I would beg to remark, that such view is too limited both as regards the cause and effect, in my own opinion at least, nor would I venture to differ from such authorities, did the matter not appear to be practically important. It would appear to me, on attentive consideration of the subject, that it is not the *constant pressure* on the inner side of the bony pedestal that is the principal agent in the production of spavin, although in splint it may be so considered; because there the tendency of this pressure to dislocate the inner small metacarpal from the fore cannon appears to be in constant action, which is manifested by the innumerable cases we meet with of splint in young horses. On the contrary, the circumstance that spavin is most common to the mature and aged horse is a sufficient proof that there must be some essential difference between the two affections. Spavin appears to me to result partially only from this uniform pressure on the inner metatarsal bone, but is principally the consequence of a *continuous series of violences* produced by *inordinate* efforts in supporting burthens, rapid progression, or other extraordinary movements: in fact, from exertions rendered extreme either by their intensity or duration. I would not say that splints are the natural result of the form of the limb; but I would say, that many young horses put out splints from exertions that would not produce spavins. The extraordinary structural strength of the tarsus or hock, and the complexity of its mechanism, sufficiently show that it had much more to perform than the carpus; consequently the range of variety in its diseases may be supposed to follow in the does not differ from that of splint, except that it is much oftener a cause of serious lameness; occurring, however, as it commonly does in older horses, it also proves more obstinate; and the treatment required, therefore, should be more active. Among the older farriers, who, like some of the moderns, thought nothing too strong for a horse, violent mechanical operations were resorted to; as the mallet and chisel to chip it off, boring the exostosis with a gimlet, punching it with a hot iron, or applying caustics; the first removing it mechanically, and the three latter methods destroying its vitality promoted its exfoliation. As might be expected, for one case which succeeded (and in some it certainly did succeed), in many it increased the lameness, or ended in anchylosis, and sometimes in death. It is not improbable that instruments may yet be devised which will operate on these bony enlargements without risk; though the chances are fewer in the hock, from its connexion with capsular and bursal ligaments, than in other parts. The *treatment* pursued by veterinarians of the present day varies somewhat; those bordering on the old school still rub them with some violence, and then stimulate them with ol: origanum, ol: terebinth: &c., &c. Those of later date blister and fire. At the Veterinary College setons are used, by nipping up the integument and pushing a needle armed with tape through it, so that the seton within the skin exactly opposes itself to the spavin. If the skin be tender or tumefied, it is more proper to make an opening above and below the exostosis, and to push a *blunt* seton-needle, or eyed probe, from one opening to the other, armed with a tape, smeared with mild blistering ointment, or common turpentine. In this way, report says, the College practice has proved very successful. Blistering we have, however, found, when repeated over and over, commonly proved equal to all the benefit these obstinate cases can receive; for when

ratio of its structural complexity and functional importance. In justice both to the ingenious author we have quoted from, as well as to the reader, who will be profited by the matter, we must further introduce what immediately bears on our subject. 'If spavin continues to increase, the bony deposit first spreads over the lower wedge-bones, for these are nearest to its original seat. They are capable of slight motion, and share in every action of the joint, but their principal design was to obviate concussion. The chief motion of the joint, and that compared with which the motion of the others is scarcely to be regarded, is confined to the tibia and the astragalus, and therefore, stiffness rather than lameness may accompany spavin, even when it is beginning to affect the small bones of the joint. Hence, too, we see the advantage of these bones having each its separate ligaments and membranes, and constituting so many joints, since injury may happen to some of them without the effect being propagated to the rest. When the bony deposit continues to enlarge, and takes in the second layer of bones, the larger wedge-bones, and even spreads to the cube-bones on the other side, even then the lameness may not be excessive, because these two are joints or parts of the joint, in which the motion is small; but when it extends to the union of the tibia and the astragalus; when the joint, in which is the chief motion of the hock, is attacked, the lameness is indeed formidable, and the horse becomes nearly or quite useless. A recollection of the situation of the different bones of the hock may, in some measure, guide the purchaser as to the probable value and use of the spavined horse; but he must not depend on this, for deep-seated deposits of bone, which the eye cannot reach, may interfere more with the action of the joint than any outward enlargement, however great.'

"To pursue my account of the opinion entertained on spavin by eminent professors of the art, I shall next quote Hurtrel d'Arboval, who also regards spavin as an exostosis that occurs at the superior internal and lateral part of the cannon bone of the hind leg. It generally occasions lameness, and is of the nature of curb and other exostoses; and the treatment which is employed for curbs and exostosis generally is equally applicable here. Mr. Percivall's excellent definition of spavin is, that it is an exostosis 'upon or near to the inner and lower part of the hock. In its origin and progress it is very similar to a splint; indeed, it may be, in reality, purely a splint; although from its situation we should denominate it a spavin. To explain this, a spavin may, and commonly, we believe, does arise from an inflammation of the cartilago-ligamentous substance connecting the head of the inner small metatarsal to that of the cannon bone, without any accompanying disease of the bones of the hock; and this, terminating in ossification, may be a splint as to its nature, but is a spavin as to its situation. If, however, the inflam-

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the body deposit is fully formed, it is in vain to expect its entire absorption: even its partial absorption is often frustrated; the removal of acute lameness is generally the only benefit that can be anticipated. Our principal hope lies in preventing the increase of the bony deposit, and likewise in removing that inflammation which is the existing cause of much of the pain, stiffness, and tumefaction in the surrounding ligaments. Our hopes of success must also greatly depend on the time the evil has existed. When it is early attended to, that is, before the bony deposit has gained its full solidity, stimulants act more favorably, and lessen it more materially. It remains to add, that, when repeated blistering fails, the firing-iron generally concludes the business, but commonly answers no further purpose than being a publication of the animal's infirmity, and a warning to practitioners as regards the previous treatment."

mation extends from this cartilago-ligamentous substance to the ligaments and bones of the hock, and terminates there in the effusion of bony matter; or if the exostosis of the inner metatarsal bone itself is so placed as to disturb the motions of this joint, then does a spavin differ essentially from a splint. To elucidate this point still farther: if the exostosis, instead of making its appearance just beneath the hock, is seated about the body or lower extremity of the cannon, it constitutes a splint of the hind leg; a disease, however, of but rare occurrence, owing to the bony deposit commonly appearing at that part where inflammation is first excited. Although a spavin, at the commencement, may be confined to the metatarsal bones, it seldom happens that those of the hock do not ultimately partake of the disease; and this will account for the various degrees of lameness and stiffness observable in that joint: indeed, we have little doubt but the external parts, the vascular lining of the joint, become eventually diseased; so that the synovia is unnatural either in quantity or quality, or, perhaps, both, to which is chiefly referrible the explanation of the fact, of spavined horses improving in their action during work. In almost all cases of inveterate spavin, the cuneiform bones are united together by a layer of ossific matter, extending upwards from the inside of the large and inner small metatarsals; so that there is no longer any motion whatever between the small bones of the hock and those of the leg: very commonly, also, the same sort of union renders the os calcis, as well as the os cuboides, fixed in their places.'

"Mr. Goodwin, well known to the veterinary world as an eminent practitioner and valuable writer, considers the seat of spavin to be '*in the synovial membrane that covers the cuneiform bones*:' it is here also, Mr. G. conceives, that spavin generally commences. With every deference to this gentleman's opinion, is this view also not too limited? And does not every day's experience disprove its being confined to this situation, or of its commencement from such an origin in the majority of cases? Mr. Goodwin has done the profession at large much service by his researches on this subject; and there is little reason to doubt that many, nay most of the cases of tarsal lameness, *without much enlargement of the hock*, and which from thence are calculated to deceive, and become attributed to strains and affections in the '*round bone*' or '*stifle*,' are derived from this source. 'This disease of the synovial membrane of the cuneiform bones,' it is observed, 'had not been named by any one: it had been confounded with exostosis, because exostosis was an occasional consequence of it. Mr. G.'s opinion was that spavin did not commence with an enlargement of the hock, but with lameness, from inflammation and ulceration of the synovial membrane. Exostosis was a subsequent affair. Common spavin, however, was, in the commencement, an exostosis. Over-exertion had produced inflammation in the substance between the metatarsals, and had packed the bones together: over-exertion was likewise the probable cause of the inflammation of the synovial membrane of the cuneiform bones.'

"If future researches should prove the frequent existence of these cases, to derive from the discovery all the benefit the art may expect, it would be much better not to confound it with the farriers' '*bone-spavin*.' Such a view would greatly mystify the pathology of occult hock lamenesses, where spavin is always supposed to show itself in the form of exostosis; and without which not only is spavin disallowed, but also lameness itself denied a station without it, and a hunt made for it elsewhere. Mr. Youatt's observations on this subject (*Veterinarian*, vol. iii) are in unison with this view, and merit much attention. To add to the varied seats of spavin, it has been asserted to be particularly frequent on the surfaces of the prominent ridge of the tibia and the corresponding furrow of the astragalus: but one or two cases do

not establish any speciality in favour of this habitat.

"Spavin may, therefore, be characterised as exostosis of some one or more of the tarsal bones, or ossific inflammation of the ligaments which connect them with each other. It may also be considered, *that it has no determinate seat*, but is more often found on the inner than the outer side of the hock. It also frequently affects the surfaces of the cuneiform bones, whose ligamentous connexions it ossifies, and whose surfaces it ulcerates sometimes. It is equally true, that its effects are not to be measured by the dimensions of the exostosis, as these are sometimes great without corresponding lameness; and that it is a character of the affection founded on the lessened irritability and increased absorption which warmth, friction, and mental excitement occasion, to render the horse less lame as he progresses, and which will assist to distinguish it from other affections. These affections, however, lame the animal more or less, according to their situation. A spavin of the cuneiform bones usually lames more than that which is lower down and affects the metatarsals only. Neither do spavins, when arrived at a certain state, usually increase; consequently spavined horses for some purposes may prove very useful. In moderate and slow work they are even amended frequently, and last many years; but in bad cases the fear of lying down prevents their thriving. Thus postmasters and stage-coach drivers are not often willing to purchase badly spavined horses, or any others with permanent lamenesses behind, although they do not reject the foundered or groggy horse. Lamenesses before force the horse to lie down; those behind often prevent him doing this, from an instinctive dread, that when once down he cannot rise again; and these persons are well aware that the horse who lies most can work most.

"*Treatment of Bone Spavin.*—This does not differ from that of splint, except that, as it is much oftener a cause of serious lameness, and occurring as it commonly does in older horses, from the effect of long-continued exertion, so it also proves more obstinate; and the treatment required, therefore, should be more active. Among the older farriers, who, like some of the moderns, think nothing too strong for a horse, violent mechanical operations were resorted to, to remove spavins as well as splints; as the mallet and chisel to chip it off, boring the exostosis with a gimlet, punching it with a hot iron, or applying caustics; the first removing it mechanically, and the three latter methods destroying its vitality and promoting its exfoliation. As might be expected, for one case which succeeded (and in some it certainly did succeed), in many it increased the lameness, or ended in anchylosis, and sometimes in death. But the very few successful cases gained by these violent means still give the practitioner without professional character a decided advantage over the regular veterinarian; for should the former, by these violent means, destroy his patient, he only stands where he did: but if he cure him, all the world is told that he has effected that which the veterinarian could not do; that is, what he dare not attempt. As with splint, it is not improbable that instruments may yet be devised which will operate on these bony enlargements without risk; though the chances are fewer in the hock, from its connexion with capsular and bursal ligaments, than in the fore leg. The *treatment* pursued by veterinarians of the present day varies somewhat; those bordering on the old school still rub them with some violence, and then stimulate them with ol. origanum, ol. terebinth., &c., &c. Those of later date blister and fire. At the Veterinary College setons are used, by nipping up the skin and pushing a seton-needle armed with tape through it, so that the tape within the skin exactly opposes itself to the spavin. If the skin be tender or tumefied, it is more proper to make an opening above and below the exostosis, and

to push a *blunt* seton-needle, or eyed probe, from one opening to the other, armed with the tape, which should be daily smeared with mild blistering ointment, or common turpentine. In this way, report says, the College practice has proved very successful, and therefore merits trial. Blistering I have, however, found, when repeated over and over, and particularly when mild intermediate stimulants have been kept applied, as a weak ointment of Spanish flies, or oil and turpentine, &c., has commonly proved equal to all the benefit these obstinate cases can receive; for when the bony deposit is fully formed, it is in vain to expect its entire absorption: even its partial absorption is often frustrated. Our principal hope lies in removing that inflammation which is the existing cause of much of the pain, stiffness, and tumefaction in the ligaments around, and likewise in preventing the increase of the bony deposit. Our hopes of success must also greatly depend on the time of the existence of the evil. When it is early attended to, before the bony deposit has gained its full solidity, stimulants act more favorably, and lessen it more materially. It remains to add, that, when repeated blistering fails, the more active method of promoting absorption by firing may be tried, carefully avoiding to fire too actively or deeply, otherwise the integuments may be penetrated, and a dangerous inflammation and sloughing of the ligaments follow."

THE AGE OF THE OX, SHEEP, AND PIG, *being the substance of two Lectures delivered before the Royal Agricultural Society of England, on the Structure and Development of the Teeth of these Animals.* BY JAMES BEART SIMONDS, Professor of Cattle Pathology in the Royal Veterinary College. Illustrated with numerous engravings. Published by order of the Society. London: Orr & Co., Paternoster-Row, 8vo, pp. 118.

THE extracts we are about to quote from the "Preface," will explain the origin of the publication of these "Lectures." "The following pages contain merely the substance of two lectures delivered by the author before the Royal Agricultural Society, on the 17th, and 24th, May, in the present year." The subject was not new to the author, and observations upon it had convinced him, that the opinions of veterinary writers, both English and French, were often incorrect. Above 2,000 animals had been examined by him, whose ages were correctly known.

"The development of the teeth of the Ox, Sheep, and Pig," forms a subject which, though not altogether an unexplored field of science, is one which has been so imperfectly

and loosely examined, that *data*, so often erroneous as not to be relied upon by fresh investigators, demand a renewed search after facts likely in the end to prove the groundwork in the same interesting and useful department of professional literature. "I may observe," says our author, "that the teeth belong to the system of organs termed the digestive," one that exists where we can detect no organs either of respiration, circulation, or even sensation. The teeth are the organs for bruising and comminuting the food, and occupy different situations in *vertebrate* animals; though they are always found placed anterior to the true digestive organ—the stomach. But in the Invertebrata "we have many examples of teeth being situated *within the stomach*." "In birds we have a provision somewhat analogous to these gastric teeth of the crustacea, in the development of a peculiar organ termed the gizzard." "The food which is swallowed by the bird first enters the crop, where it is retained a short time to be softened by the secretions of this organ. From this receptacle it goes to the gizzard, passing through the *proventriculus*, a short canal which connects the two cavities together, and where the true digestive fluid, *gastric* juice, is produced. Within the gizzard the food is ground down, and mixed at the same time with the gastric juice, which enters the organ from the *proventriculus* above. After being sufficiently digested and comminuted, it passes onwards into the intestinal canal." "In this (the fish) tribe we find, for the most part, that the teeth are located either upon the membrane of the mouth, or at the commencement of the gullet. They are produced by the membrane, and are not, as in mammals implanted, by roots or fangs into distinct sockets in the jaws. When attached to the bones beneath the membrane, which they are sometimes found to be, they are so by distinct ossification of their expanded basis. Occasionally, these teeth are few in number, but often they are so numerous as to thickly stud the greater part of the surface of the mouth. As in the mammalian class, the teeth of fishes present many varieties of form, each being suited to the kind of food on which these creatures live. In most fishes the teeth are shed and renewed several times

during life. In this respect fishes differ greatly from mammals, as in them there are but two sets, the temporary and the permanent. If torn away, fresh teeth soon arise from the membrane of the mouth of the fish. Many other illustrations, in various animals, showing that the teeth belong to the mucous membrane, as an internal skin, and not to the skeleton, or bony parts of the frame, might given; such, however, are not required.

From this general history and formation of the teeth, our author proceeds to make some general remarks on the three *kinds of teeth of the mammalian class*, viz., incisors, tushes, and molars; in the course of which, we come to the

"Three kinds of structure unite to form the solid part of a tooth, whether it belongs to the division called simple or to that termed compound. These structures, which partake more or less of the character of bone, are designated *enamel*, *dentine*, and *crusta* or *cement*. They vary considerably in hardness and consequently in their power to resist attrition, a circumstance which has been previously alluded to. *Enamel* is by far the hardest of the three, and therefore we find it existing as a kind of cap to a simple tooth, but entering more or less deeply into the body and flanking the sides of a compound one."

"The central portion of a tooth is hollowed out to receive the pulp from which the organ chiefly derives its nourishment. The size of this cavity depends upon the age of the tooth. It is always large in a young tooth, becoming gradually smaller as age advances. The pulp cavity is bounded by the dentine, which makes up the chief part of the organ."

"To proceed to the structure of the dentine. This substance makes up the great bulk of both the body and fangs of a tooth. It is that which gives form and size to the organ, and upon which its hardness mainly depends. In the interior of the dentine we meet with a cavity of large size compared with the dimensions of the tooth, and more particularly of one recently formed. From containing a red and pulpy mass, composed chiefly of blood-vessels and nerves, interposed with cells and filamentous tissue, designated the tooth pulp, this cavity has been called the pulp cavity. It is from the pulp that the tooth receives sensation as well as its greatest supply of fluids, which are derived from the blood, for its nourishment. Entering the cavity from below and being bounded on all sides with dentine, the pulp is secured from injury. Thus rude pressure can be borne by a tooth without the pulp being damaged: a simple but effectual provision to maintain the vitality of the organ."

"I proceed to speak of the crusta, the third constituent of a tooth. This substance approaches nearer to ordinary bone in the arrangement of its component parts than does either the dentine or enamel. It also resembles bone both in its chemical composition and in its density, and hence it is frequently designated the bone of the tooth. The proportionate quantity of crusta to the other constituents depends upon the kind rather than upon the size of the tooth. For example, in a simple tooth very little is present, but on the contrary in a compound one, a good deal of crusta exists. This difference arises from the circumstance that the crusta, in a simple tooth, is

met with chiefly on its fang, while in the other variety it not only covers the fang but dips deeply with the enamel into the interior of the organ."

"If teeth die in their sockets, they would greatly impair the health of the animal, from his incapability of properly masticating the food, as also from the suffering he would endure. The diseases of the teeth of animals and the causes leading to them has certainly not as yet received all the attention which the importance of the subject merits. Many cases might be cited to show this, but on the present occasion I must refrain from adding to these observations, although they may have a very practical bearing.

"To return to the crusta. On the fangs of teeth recently cut, but little of this substance is met with, when compared with that existing on old teeth. As age advances, however, the crusta increases. Hereafter it will be shown how this and the other structures are originally produced. It may, nevertheless, be now asked how the increased quantity upon an old tooth is accounted for? Is the crusta always added to from the original source of its production, or can it be otherwise augmented? I answer that it frequently receives an addition altogether independent of its original source."

"From the explanation of the structure of a tooth, I proceed to speak of the manner the teeth are formed, confining, for obvious reasons, my remarks to those animals which are the chief subjects of these pages. The development of teeth has of late years been studied with much advantage, and we are now enabled to describe the successive stages of the process with far greater confidence than formerly. In a work of this kind it is not required that I should enter very minutely into this subject, but merely give a general outline of it, so that the reader may the better understand how a second set of teeth, the permanent, spring up to supply the place of the temporary, after they have served their purpose."

"With regard to the formation of the permanent molar teeth, which are *three* standing behind the temporary in each row: the *first* of these is developed from a papilla which rises in the lengthened primitive groove, behind the last temporary molar; and from *cavities of reserve*, with a slight modification of the plan, the two last are subsequently formed.

"We have thus an explanation of the fact that the *additional* permanent teeth of mammals are, like the temporary and their successors, productions from the membrane of the mouth, as had previously been seen to be the case with the teeth of fishes, &c. The implantation of the teeth in bony sockets in animals is only to give them a greater hold of the jaw, the better to serve their important offices.

"To pass from this general description of the formation of the teeth to the structures of which they consist. First, of the dentine, the substance making up the bulk of a tooth.

"In concluding this portion of my subject, I will therefore merely observe—1st, That it appears to me that the dentine is formed beneath the original membranous covering of the papilla; 2ndly, That this membrane is the true producing organ of the enamel, and identical with both the *performative* and the *adamantine* membranes, these being, not two, but one; 3rdly, That the pulpy mass lying external to the enamel membrane is the matrix of the crusta; and 4thly, That the capsule becomes the *periodental* membrane or covering to the tooth, and the *periosteal* lining of the bony socket in which it is placed—these being also but one.

"This view of the question of the formation of a tooth has at least simplicity for its basis; for, after all, it is little more than a layer of mucous membrane, which is reflected inwards, changed partly in the arrangement of its primitive elements, and then reflected outwards again. That portion of the mucous membrane of the mouth which originally flanked the sides of the

dental groove remains behind as the lining to the socket of the tooth, while the portion which was reflected over the primitive dental papilla again comes to the surface as a covering of enamel—the two having now between them a third substance, the crusta, and which has been formed by the changes that each *in part* has undergone. These views of the development of the dental tissues will be made the more apparent if the series of objects in the diagram are attentively examined."

It must be evident, from what we have seen, that the present is a work of original character, and rare value in veterinary literature. It professes no archetype save nature's impress; follows no guide save that which has preceded it in the same field of research. The illustrating engravings, showing forth the structure of the teeth, their formation, and the changes they undergo in the ox, sheep, and pig, admirably and strikingly pourtray the several phases of change of the teeth in the various processes of formation and growth, and add great value to the work. Professor Simonds' name will be long associated with a subject which, hitherto, had long lain dormant, or was so imperfectly or inaccurately known to agriculturists, that their knowledge was too fallible to be depended upon, and too superficial to be really and substantially useful. In short, there was a great void in this department of the agriculturists' labours, and this void Professor Simonds has filled so completely as to leave little room for future inquirers in the same field of research, unless it be to those who plough deep, and look narrowly into the veins of science.

Foreign Department.

INOCULATION FOR CONTAGIOUS PLEURO-PNEUMONIA.

Contagious pleuro-pneumonia, as its name indicates, is a disease of the lung and its envelopes, having the sad property of transmission from the diseased animal to the sound one; it is confined to the ox species, though it has been known to attack the pig, and some say, the goat; its characteristic symptom, its progress, terminations, and the post-mortem lesions it leaves behind, are too well known to need repetition. A great number of proprietors unfortunately have but too much reason to be acquainted with it; and the numerous publications on the subject, are sufficient to inform those who have not had such opportunities. Nevertheless, there are some points on which public opinion is not sufficiently made up to assist renewed inquiry. Contagion is beyond doubt established by correct observers, and yet everywhere incredulous persons are met with among those of superficial observation. This disease, it is true, is not contagious the same as typhus, the rot, the itch, &c., but is so after a manner peculiar to itself, being special in its mode of transmission; and so, people say, how does it happen that the beast standing next to one dead of the disease, does not contract it, but remains even exempt, although one standing at the bottom of the stable becomes affected. This is easily explained. The contagious virus of this epizootic is volatile, and consequently floats in suspension in the atmosphere; all animals in the same habitation absorb it without exception, and if some contract it more readily than others, it is owing to the disposition of their temperaments; they must remain for a certain time, in such cohabitation, that the air respired by the diseased animal be inhaled by the healthy one, and that for a certain time and in indeterminate quantity. Some animals there are so refractory to its action, that I have seen cows resist two successive invasions of it, and yet fall victims to a third. This fatal property is so strongly confirmed by experience, that I fear not to say, that out of twenty cases, but one was spontaneous to nineteen caught by contagion. This dreadful disease appeared for the first time in 1840, in the department of Murat.

An animal cured of pleuro-pneumonia is no more liable to the disease: to this general rule I have seen no exception. What may in some cases have given rise to a contrary belief

is, that there are animals who have been but imperfectly cured, whose lungs remain hepatized to a greater or less extent, in whom the disease may run into the chronic from the acute stages, and be accompanied in that with all the primary symptoms.

The left lung is much oftener attacked than the right, though the contrary, without any cause assignable, happens in certain cow establishments, and, strange as it may seem, in this last case, the mortality is always greater. This is a fact I have uniformly observed at different dairies. The province of Cantal, whose sole agricultural produce consists in the rearing of cattle, sees its prosperity threatened every day by this devastating scourge; every mode of treatment employed hitherto having proved without success.

Inoculation alone, as recommended by Dr. Willems, was the only means held out to promise. For a long time I felt myself inclined to this operation; I seemed to anticipate results before I had obtained them, but knowing the great importance that such acts might be of, and feeling how necessary it was to be cautious under the circumstances of advancing nothing save what a thorough experimentation, based upon the number of subjects and the time occupied, I have deferred my opinions up to the present moment.

1. In the month of September, 1852, I was called by M. Dubois, farmer and magistrate of Murat, to treat some beasts on the domain of Pesche. Pleuro-pneumonia prevailed in this flock with rare intensity; two thirds of it had perished. Inoculation proposed by me as a new means of experiment, was accepted by M. Dubois, Jun., and practised on fifteen beasts at the time in health. Since, this dairy has had no return of the disease.

2. In February, 1853, M. Chaubassse, a lawyer at Allanche, desired my services for his dairy at Condour, in which pleuro-pneumonia had broken out with so much violence, that out of ten sick beasts, eight had died (the right lung being always more affected). Inoculation was practised on seventy-two beasts, the lower two thirds of the tail being selected; two of the animals only, with whom, probably, the disease was in a state of incubation, perished some days after the inoculation, while two others who failed to take inoculation, on the evidence of the farmer who believed them cured, died. The efficacy of inoculation is at this moment submitted in this domain to a sort of counter-proof, which is the means of its being estimated at its true value. Last spring, M. Chaubasse purchased some cows to replace those which were dead. With these fresh beasts the disease re-appeared,

but all those which had been inoculated have remained free from it up to this very day. A fresh inoculation was practised on thirty beasts the 26th of December last, who had not been so previously. Of this experiment, I shall recount the issue.

3. Encouraged by success, I anxiously looked for fresh opportunity of continuing my experiments. I did not wait long. On the 21st of last July, M. Benoist, mayor of Marienat, and M. Benoid Camille, placed at my disposal their fine dairy of the Roche domain, where pleuro-pneumonia had already attacked fourteen beasts. Inoculation was practised on 142 beasts, at the origin and extremity of the tail, by means of five or six punctures, in order to introduce the largest quantity possible of the virus, without being previously engaged with consecutive accidents, such as M. Willems had witnessed. From the fifteenth to the twentieth day, there arose on the inoculated part considerable tumefaction, causing the loss of the tail to two cows, and destroying two others in whom this tumour extended to the vulva, anus, and muscles of the croup, as far as the pelvic cavity. Apart from these light accidents, and with regard to the number of animals operated on, no beast after this period has presented the slightest symptom of pleuro-pneumonia.

4. On the 23d of the same month, I inoculated 25 beasts at M. Fabre's house; there the same operation was attended with similar success, with the exception of a single bull, who died in the same manner as the cows at Roche. So that 167 beasts, inoculated in the same week, have been for upwards of six months preserved from every taint of the epizootic. The three notable losses would certainly have been prevented if the operation had been confined to the lower part of the tail. The brilliant results obtained at the houses of these two proprietors have made a great sensation in the country, and justly popularised a remedy against which had arisen some days before so many prejudices.

5. On the 20th of Oct., I inoculated, at M. Chavaroche's house, 36 animals, and from that time I have heard no more of them.

6. On the 22d of the same month, I operated on 74 beasts belonging to M. Maillance, with the same success.

7. On the 11th of November, inoculation was performed on 56 beasts on the domain of Ambesse, belonging to Capt. Fonteille.

8. On the 14th of the same month, the same operation was performed on seventy-two animals on the domain of Landel.

9. On the 8th of December, I inoculated 36 beasts belonging to M. Boudon.

10, 11, 12, 13, 14.

15. Lastly, on the 23d and 24th of the same month, 106 animals of M. Tournadre were submitted to inoculation.

These several amounts constitute a total of 855 animals, belonging to different land-holders, on whose farms the epizootic had made more or less considerable ravages. The success of inoculation proved in every case complete, save some trifling accidents happening at a time when inoculation was too far advanced.

In the face of similar facts equally varied and numerous, of which the greater part are established by a considerable lapse of time, can any reasonable doubt remain of the preservative property of pleuro-pneumonic virus? I do not think it. This question appears to me finally set at rest.

This epizootic prevails uniformly with the same intensity. Every day it extends into the provinces of Cantal and Murat, or the great range of pasturage. Every spring induces a prodigious number of beasts from every province, and consequently keeps up between them very active intercourse, so that whenever a disloyal farmer perceives the disease in his stables, he takes good care not to inform the municipal authority of it; but, on the contrary, busies himself to sell all such as still possess value, and whenever the disease breaks out at the house of the purchaser he, in his turn, acts the same, so that in this way the infection becomes more and more spread abroad.

For the time to come breeders, having no longer the same interest in getting rid (at a low price) of their animals, will keep them. The disease, arrested by inoculation, will remain concentrated at some points, and little by little disappear for ever from our mountains. In order to arrive speedily at this result, it will suffice, I think, that a new administrative resolution modify the measures in force, regulating the introduction into fairs and markets of such proprietors alone, of animals who are known to have been sick, and not, as in the past, to every inhabitant of the commune where the epizootic may have an appearance; which evidently is impracticable. Thus, what has happened up to the present time? why, that no one has paid attention to existing laws, and that contagion has spread with impunity over all the fields of the fair.

I must be permitted once more to call the attention of M. le Prefet to another question touching the indemnity allowed by Government to the loss of beasts; does such

gratuity always go to the relief of the truly unfortunate? Does it not too often find a false route? is the chief administration always well informed? experience would seem to establish that it was not always so. It would be very desirable, I think, in order to escape much abuse in such cases, that all epizootic and enzootic diseases, whatever their nature, were pronounced upon, and treated by a diplomaed veterinarian, without any regard to the distance he might have to go from his house to the locality of disease.

I can see in this measure the double advantage of furnishing Government with some valuable documents, and veterinary science with some excellent opportunities of studying the nature and causes of epizootic diseases of the ox species, on which it yet possesses but some very incomplete notions.

MARRET, V.S. Allanche, &c.

Home Department.

PRESENTATION OF A TESTIMONIAL TO WM. ROBINSON, ESQ., OF TAMWORTH.

On Wednesday evening last, a large party of gentlemen assembled at dinner in the Town-hall, Tamworth, upon the occasion of the presentation of a testimonial to William Robinson, Esq., of Bonehill Cottage, in that town. As many of our readers are aware, Mr. Robinson has, for the long term of fifty years, practised as a veterinary surgeon in the neighbourhood of Tamworth, and while his high professional attainments have secured the confidence of all who have had occasion to engage his skilful and enlightened treatment, his private worth and his invariable kindness have won for him the admiration and esteem of the numerous circle with whom he has been brought into contact. While engaged in the active pursuits of his profession, he has not been unmindful of his duties as a citizen, and the interest he manifested in all affairs connected with the borough, caused his fellow-townsmen to elect him three times to the office of chief magistrate of Tamworth. Upon the occasion of his last filling the office of Mayor, some of his agricultural friends thought it a fitting opportunity of marking in a substantial manner the respect they entertained towards him, and accordingly it was resolved to present him with a testimonial. Circumstances prevented

the immediate carrying out of the intention, but the delay gave an opportunity, which was gladly embraced, for the friends of Mr. Robinson generally to subscribe towards the graceful tribute it was proposed to render him, and ultimately a handsome sum, contributed by the nobility, gentry, farmers, and tradesmen of the neighbourhood, and by many of his professional friends in London and elsewhere, was realised for the purchase of a splendid piece of plate. The testimonial consisted of a richly wrought center-piece in silver, representing Criethonius introducing the horse to the Athenians. The appropriate incident chosen for illustration by the artist, Mr. Charles Grant, is from the works of Arrian. It is recorded that about the time of Moses, some Egyptians introduced the horse to the inhabitants of the north of Greece, and about sixty years afterwards another colony introduced it into the south of Greece, the leader being called Enichthonius, or the Horse-tamer. The subject is pourtrayed by a figure of the Egyptian on horseback, displaying before the admiring and surprised Athenians the noble qualities and management of his charger. In the centre of this group rises a palm tree, arranged to support a richly cut glass dish for flowers or fruit. The figures of the horse and men are most beautifully executed, and reflect great credit on the artist. The testimonial also included a richly chased silver tea and coffee service, comprising coffee-pot, tea-pot, sugar-basin, and cream-jug. On the shield of one of the Athenian figures, and on the tea and coffee pot, the following inscription is engraved: —"Presented to Wm. Robinson, Esq., of Bonehill Cottage, Tamworth, M.R.C.V.S., and late President of that body, by a large circle of his friends, in grateful acknowledgment of his high professional attainments and private worth. A.D. 1854." The plate is from the celebrated manufactory of Messrs. Elkington, Mason, and Co., of Birmingham, and cost, we believe, about 260 guineas.

The *Chairman* rose and said that it was now his duty, which he had very great pleasure in performing, of bringing before their notice the especial object for which they had assembled that evening. They were met together for the purpose of presenting a testimonial to their friend Mr. Robinson—(cheers)—and they would agree with him when he said that he was richly deserving of the testimonial they were about to offer, and of everything which could be said in his favour. (Renewed cheering). He deserved not only their respect but their gratitude—(hear, hear)—and he trusted that he would accept that beautiful piece of plate as a guarantee that his most valuable professional services during

a period of nearly fifty years had not been unappreciated by his large circle of friends. (Hear). He said a "large circle" of friends, because the testimonial was not the result of a merely local subscription, but had been joined in by friends in all parts of the kingdom, embracing all classes, who equally with them respected Mr. Robinson, admired his talents, and appreciated his private worth. (Applause). Mr. Robinson's professional fame extended beyond the limits of that borough, and even of the county, as a proof of which, and of the esteem in which he was held, he might refer to the presence amongst them that evening of several of his professional brethren who had come long distances to testify the respect in which he was held by them—(cheers)—and he believed that the eminent veterinary surgeons who were then present would bear him out in saying that Mr. Robinson had done more towards raising the *status* of the profession, and adding to its respectability, than any other who had ever belonged to it. (Hear). It might not be out of place for him to advert briefly to Mr. Robinson's connection with the profession in which he was so much distinguished. Veterinary science had not been very greatly studied in this kingdom until comparatively within the last few years. During the early part of the last war the horses of the cavalry suffered much from disease, and great loss was experienced in consequence thereof, arising chiefly from the ignorance and incapacity of the men whose duty it was to attend to them; accordingly the veterinary art became more studied at that time, and in 1791 the Veterinary College was established. The college was attended with beneficial results, and an improvement took place in the treatment of animals; still, as time rolled on, it was found that there was room for further advancement in the art, and about the year 1842, a number of distinguished persons, including the father of one whom they had amongst them that evening, Mr. Mayer, associated themselves together with a view of seeing if the institution could not be made more useful. The college was attended by those who wished to practise the veterinary art, but the pupils were simply passed by those who had taught them. It seemed inconsistent that a master should be at liberty to pass his own pupils, and a number of gentlemen, including their friend Mr. Robinson, formed themselves into a committee for the purpose of bringing about an improved state of things, and with the assistance of the late Sir Robert Peel and Sir James Graham, who was then Home Secretary, the Royal College of Veterinary Surgeons was established, with professors of the art. The professors had the power of examin-

ing candidates who wished to enter the profession, and henceforth no man was permitted to practise without first having passed the Royal College of Veterinary Surgeons, of which their friend Mr. Robinson was one of the most distinguished examiners. (Cheers.) Mr. Robinson had also twice filled the office of President of the College. The college added to the respectability of the profession, and had been the means of placing it upon an equality, he might say, with the medical and surgical profession generally. For this result, they were in a great measure indebted to the exertions of Mr. Robinson, who was one of the most active members of the committee. (Hear.) As much as they esteemed and honoured Mr. Robinson, it was right that they should know that he was equally respected by the members of his own profession. (Cheers.) He would now, with their permission, say a few words respecting the beautiful piece of plate which they were about to present to Mr. Robinson; but first of all he would remark that the testimonial originated with Mr. Robinson's agricultural friends, who thought the occasion of his retiring from the office of Mayor of that borough, after having filled it the third time, would be a good opportunity of testifying the respect in which he was held by them. (Hear.) The time, however, proved too short, and other friends joined with the agriculturists in the object, and the result was the beautiful testimonial they then saw before them. (Cheers.) In that group of figures they had a representation of the first horse being introduced into Europe, and they had in Mr. Robinson a man who had done more than any one else to rescue the noble animal from the barbarous treatment to which it was so long subjected, a treatment which commenced in ignorance and was continued from prejudice. (Hear and cheers.) Every one who was the lover of the horse had reason to be truly grateful to Mr. Robinson for his improved treatment, and they had also every reason to admire him for the pains he took to relieve the sufferings of the animals under his care. (Cheers.) Mr. Webster next remarked that when they asked Mr. Robinson what shape he should like the testimonial to assume, he replied that he should prefer a teapot. (A laugh.) The subscriptions, they told him, were sufficient to produce a teapot large enough to hold him—a laugh)—but in order to gratify him they had procured a teapot, but they had secured a testimonial in keeping as they thought with his profession. Then addressing Mr. Robinson, he said,—"In the name of all your friends now present, I beg to offer for your acceptance that beautiful group of figures; and I trust you will accept it not only as a grateful

recognition of the services which the exercise of your talents has bestowed upon us, but as a slight token of the affectionate regard entertained for you by all who have the privilege of your acquaintance. (Cheers.) I think it is hardly possible to find a man who has lived so long and made so many friends, without finding an enemy, as yourself. (Hear, hear.) May you live for a great many years yet to enjoy the reputation which is so richly your due—(great cheering),—and may it be long before you relinquish that profession which you so much honour." (Cheers.) The Chairman then called upon the company to drink in a bumper the health of "their much respected and esteemed guest, Mr. Robinson." (The toast was drunk with "three times three" and "one cheer more."

Mr. Robinson, on rising, was greeted with renewed applause. After silence had been restored, the worthy guest, who was greatly overcome by the kind and flattering reception he had experienced, spoke nearly as follows:—He begged to thank the worthy Chairman for the very flattering terms he had used towards him in presenting him with that handsome testimonial. It was impossible for him to find words in which adequately to thank them for the kindness which had prompted them to unite in doing honour to an humble individual like himself, by the presentation of such a splendid gift. (Cheers.) He had now for a period of nearly fifty years lived amongst them, and it was indeed truly gratifying to him to find that he had in some measure obtained their respect and regard; and he assured them that he accepted the testimonial which had just been presented to him in the same friendly spirit in which, he was happy to believe, it had been offered. (Cheers.) He need not assure them that he should hand it down with pride to his posterity, and he trusted that they would have the same regard for it as he had. He should retain to the last day of his life a grateful remembrance of their kindness that day. (Cheers.) It was only on hearing it mentioned by the Chairman that he became acquainted with the fact that this mark of their kindness originated with his agricultural friends. That circumstance rendered the gift still more grateful to him, for if there was any class to whom he felt indebted more than another, it was to his agricultural connection—(cheers,)—and he was glad to find that his humble services were appreciated by them, inasmuch as it showed, his judgment being based on scientific principles, that they honoured science, and were ready to put it into practice in connexion with their own pursuits. (Hear). He was glad to see amongst his friends present, men who acknowledged their deficiency as regarded the ap-

plication of science to their important pursuits, but men who had done themselves honour by taking means to make up for that deficiency in the appointment of an agricultural chemist to aid them in their farming operations. To that town and neighbourhood, he believed, belonged the honour of originating in England a society for providing for agriculturists the assistance of a chemist. They had already had the benefit of Mr. Haywood's advice, and he was happy to learn that the place of that unfortunate gentleman was about to be filled by another scientific man. In connexion with the society to which he referred, he could not forget that they were indebted to the liberality of the worthy baronet, Sir Robert Peel, who had presented them with £50 a year to promote its important objects. (Cheers). He was glad to find that the testimonial originated with men who were determined to go with the times, and avail themselves of the advantages which scientific knowledge was so well calculated to afford them. It might appear to some that this reference to agriculture had little to do with the immediate subject before them, but he would remind them that his profession was deeply indebted to agricultural societies. They were indebted for the foundation of the Veterinary College to an agricultural society. Mr. Robinson then stated that the Veterinary College in London, owed its origin to the agricultural society at Odiham, in Hampshire, and that the Veterinary College at Edinburgh, in like manner, had its origin in the Highland Agricultural Society, and added that the profession, therefore, felt under great obligation to agriculturists. The Chairman had complimented him upon the interest he had taken in the Royal College of Veterinary Surgeons, but for the establishment of that College they were indebted to his friend, Mr. Mayer, whose father was the founder, he might say, of the Veterinary College, and those associated with him, including his friends, Mr. Hunt and Mr. Burley, and though last, not least, Mr. Pritchard, of Wolverhampton. It now only remained for him to thank them once more for the very handsome present they had given him. It was indeed gratifying to him, after living amongst them for nearly 50 years, to find that he had made so many friends; and he was happy to believe, as the chairman had remarked, that he had not made an enemy—(cheers,)—and he assured them that it would, during the remainder of his life, be his anxious care to retain the respect and esteem of those by whom it was his happiness to be surrounded. (Mr. Robinson resumed his seat amidst applause.)

THE VETERINARIAN, OCTOBER 1, 1854.

ADDRESS TO THE STUDENTS.

The hard, dry facts of life constitute the ordinary texture of our Leading Articles: for once in the year, then, let us cry "*jam satis*," and devote a few columns to reflections of a different nature. By thinking too much of external circumstances, we are apt to lose sight of the internal man; but the latter is, after all, the great consideration.

On commencing his studies, the pupil should be impressed with the conviction that there are few more difficult than those in which he is about to engage. He must not suppose that the practice of medicine is a mere empirical art, or a slight matter of routine, like the trade of a watchmaker. He is commencing a pursuit in which talent will find the amplest scope for its development, over which the spirit of change and progress sits brooding, and wherein original research will meet with a rich recompense.

In no other practical art is the exercise of independent judgment more required. Every case is a problem, presenting some obscure point for solution. It either embodies anew an old difficulty, or offers some fresh point of its own, which must be answered. How? and Why? are everlasting questions in medical practice. I do not envy the man who can be content with asking himself a question—letting a glimpse of light into his mind, and straightway shutting it out as a troublesome intruder. Such a man allows his intellect to be converted into a black hole, hung round with moss and cobwebs, where Truth perishes for want of exercise and airing. Open the windows, let in the light, let the palace be gloriously furnished, and every unclean thing be swept from its dark corners.

The wiser men of the profession, knowing its difficulties, and duly appreciating its solemn responsibilities, have largely extended the course of study, in order that the young practitioner might be sufficiently qualified for his important practical duties. Hence botany, chemistry, comparative anatomy, moral philosophy, and various other branches of

science, have been added to anatomy, medicine, and surgery; and at this moment there is not, perhaps, a more varied or difficult course of study anywhere established than is required in this country from the candidates for the medical profession. As a mere effort of memory, the acquisition of the thousands of independent facts in anatomy alone would be marvellous, if it were not so common. That these facts are acquired proves the extent to which the mental powers may be developed by practice, and should be an encouragement to a yet higher and nobler exertion of the faculties.

I do not, however, desire now to expatiate on the propriety of diligence in the acquirement of special knowledge. Experience will probably teach the student the necessity. There is another branch of study on which I wish particularly to enlarge, because, while the student is attending the classes at the schools and hospitals, it is apt to be neglected, and there is hardly another that is more useful or attractive,—I mean what is commonly called a good "preliminary education"—literature.

There is a thoughtless cant against literature, which I have ever seen enunciated in some of our medical papers, which, nevertheless, affect to be the advocates of a "good preliminary education"—forgetting that the two are one thing. Science, they say, is our business, literature has no part in the practice of medicine. This idle sophism, which prevails somewhat extensively among us, is the cause of so large a number of our members being unable to express their sentiments in writing with propriety. I am no false witness, nor do I speak without knowledge. It would be curious to ascertain how many of the large number of young men who pass their examinations at the Royal College of Veterinary Surgeons are able to compose an essay according to the rules of grammar. The want of literature is the great defect in the education of the youths who enter our profession, and until it be remedied ours can never rise to the level of the other professions in social estimation. We are respected for our services, beloved for our zeal and sympathy with suffering, but we are not respected as members of an educated body.

Those young men who are entering the profession should

lose no time in mastering a sufficient amount of general literature to enable them to study the chief medical authors in their own tongues, for every day that elapses increases the difficulty of the acquisition. Although it is true that through the medium of translations we are provided with most of the leading facts that have been discovered by the industry of foreign physicians and physiologists, yet there is a large amount of ingenious and productive thought contained in foreign publications which never appears in the pages of English literature. Professional eminence depends, to a great extent, on a familiarity with the labours of foreign men of science; and it may be laid down as a maxim, that a man whose imperfect education incapacitates him from learning what is going on in foreign countries, is shut out from the hope of distinction in his own.

Science is cosmopolitan; she is the guest of every civilised people, and knows no schools or parties. An English school, a French School, a German school, is an anachronism. Wherever there is a school there is error—error professed and formularized. So it was with the Greeks, with the old schoolmen, and with the first physiologists; with Zeno, Aristippus, Epicurus, and Plato; with Abelard, Duns Scotus, and Thomas Aquinas; with Sylvius, Brown, Stahl, Van Helmont, Willis, and the tribe of theorists of their day. Science is truth, and truth is universal. Hence it becomes necessary that an accomplished physician should be able to seek for truth wherever it can be found; and the more extensive his inquiries the more likely will he be to avoid falling into error.

I therefore urge upon the young men who are now embarking in their professional career the importance of a good preliminary education. It will be found to be not more attractive than useful, and will surely gain for its possessor a higher position in society than without it he would be able to attain.

When John Hunter was informed that he had been charged by Jesse Foote with being ignorant of the dead languages, he remarked, "I could teach him that on the dead body, which he never knew in any language, dead or living." This was a

proud vindication of the value of the natural sciences; a sublime conviction that he had added by original observation to the sum of human knowledge. John Hunter is the type of our class, as he is of every class of men investigating physical truth. He called witnesses from nature and took their evidence, fresh and undistorted, he traced its links through all their complex involutions, shaped stammering utterances and fragmentary depositions into fair round speech by comparison with known truth, closed his ears against the wrangle out of court, and applied his honest mind without bias, to adjudicate on the original testimony. To such a man everything is new, and nature inexhaustible. The most trivial atom has a meaning and evidences a law: it is an essential part of a great whole and mirrors truth as clearly as if it were a universe. A single beam teaches the qualities of light as well as an entire sun.

Books, however, must not be despised: they have their good uses. They correct private judgment, fill up the gaps in our personal acquisitions, and indicate new courses of observation. If they are suffered to aid, and do not warp the judgment, they are of immense utility. A man, through them, takes his predecessors into counsel: he sets on equal terms with Hunter and Harvey, and Newton, and Galen, and Plato, and argues the matter without restraint. He does not veil his eyes in shame before the great philosopher; but reading hard and critically, seems to say "Soul for soul, mine is as good as thine, what hast thou to say about this that I cannot understand?" The modest man becomes defiant in his closet, and in silence vindicates the equal divinity of his nature. "Go to, I will wrestle with thee," is the thought working within him; and he does not quit the struggle until he can come off with the gay heart of a champion. Books are the granaries of wisdom, into which each man throws his sheaf of thoughts; in due season the seed is winnowed and re-sown to produce a fresh crop, which is being eternally garnered and renewed. But this storehouse is common property, and every man is welcome to as much as he can carry away.

Now, a young man reads a book, either to learn facts or

principles. The young medical student must be content to read for the first two or three years simply to acquire *facts:* his memory is the faculty he will be chiefly required to exercise. This may be a dry, revolting duty; but it is a good regimen. He must, however, also investigate principles to qualify himself in a respectable manner for his vocation. In the latter case the course of study should always originate in his own thought; the question should be suggested within; he may then go out for an answer. Thus the reader preserves and strengthens the freshness of his intellect.

The student should always have some question to solve while he is reading: for to read without an aim is mere frivolity and loss of time. What is read makes little impression, and is soon forgotten. A man who lounges through his studies may possibly pluck a pretty flower, and catch a fine view now and then of the glorious world he moves in; but beyond that he acquires nothing either permanent or profitable. It is a very pleasant way of passing time, fit for spinsters and fine gentlemen, but derogatory to the true student. Every man should work, work, work.

Never be afraid of a difficulty; and never read except to grapple with one. Do you want to grow strong? Then you must measure yourself with the men of renown, and wrestle with all your might. A throw upon your back will do you good. Your pulse should beat high, as if you were in a battle, and you had the sound of the trumpet in your ear. If a man simply raise his arm he can exert but little strength, but let him grasp hard, and see how the muscles swell and quiver.

Neither time nor space will allow me to dissertate longer on this subject, but I must confess that the temptation is strong, and I fear that I have not yet said enough to do good to one young student. I do not write for show, if I did I would indite Ciceronianisms—I write with the earnest purpose of leaving an indelible mark upon the memory of the reader. I write, too, in weakness, both mental and physical; but I trust that the few counsels I have uttered will have enough of the flame of zeal in them to beget a like fervour in the breast in the reader, and tend to inspire his energies in his future course of life. GEORGE ROSS.

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INTRODUCTORY LECTURE,

By Professor Morton, Royal Veterinary College.

OPENING THE SESSION OF 1854–5.

Gentlemen,—Heed we it, or heed we it not, time rolls on. Its revolving wheel has brought round the commencement of another session, and it has devolved on me to give the opening address.

I could have wished that this honour had been conferred on either of my colleagues instead; for they, from "thoughts that breathe," would have given you "words that burn," and thus profitably have engaged your attention during the current hour. Nevertheless, I hesitate not to attempt the performance of my task, having in former years experienced the kind consideration of my audience, and I do not for a moment doubt but that the same will be extended to me now.

Moreover, there is this advantage connected with an introductory lecture: by common consent it is allowed to be somewhat discursive; and although during it many points of interest may be adverted to, they are little more than *touched* upon, and much is referred to in a *general* way only; so that at the best a cursory view of the subject is taken, to be amplified afterwards.

To all of you the present period of your lives is big with importance. To many, much that is novel and mind-stirring will present itself; to others this possibly may not be the case, because they have become somewhat familiarised with their studies; yet to one and all it is a season demanding thought and reflection, and depending upon the reciprocal performance of duties that attach themselves both to the teachers and the taught, will be the result of this our reunion. You will allow me then, in my own name and the names of my colleagues, with all sincerity to greet you. May it be

ours during the coming session harmoniously to progress together. May the common object we are pursuing be kept steadily in view by us, and a spirit of emulation being awakened, may each provoke the other to the performance of those acts which, while they tend to advance the best interests of our profession, shall cause the scholastic session of 1854-5 to be remembered above all the others that have preceded it, and "which are now numbered with the years beyond the flood."

I have alluded to duties existent between the teachers and the taught; and I know that it has been customary on such an occasion as this to speak of the fitness of the individuals who have been selected to fill the prominent and responsible offices of instructors. Now, "there are some things that are more honoured in the breach than in the performance," therefore I shall venture to deviate from this custom, simply observing that to the majority of you we are not unknown, nor are we of yesterday's appointment. The abilities God has given us will, we trust, be honestly exercised for your mental profit, and we fervently hope that we shall become cordially united by the cultivation of those sentiments which ennoble man, and spring from a conviction of the accountability that is connected with the position in which we are placed towards you.

It has been my good fortune during the long time that I have been connected with this Institution, to have witnessed a marked improvement take place in the curriculum of your studies, at which I heartily rejoice. But do I think it now perfect? Far from it. We must continue to go on to add and to improve, for all the sciences in this our day are progressing, consequently not to advance is relatively to go back. Besides which I am of opinion that the time is not far distant when other divisions of science will be made necessary parts of the education of the student of Veterinary Medicine, by which his usefulness will be increased, and he become more highly esteemed; and my aspiration is that this may take place ere the curtain of eternity, with its starry folds, is dropped between us. I allude to Botany, Natural Philosophy, or Physics, Practical and Agricultural Chemistry, and Hygiene. My reason for so saying is, I hold that schools like this should take the initiative, and not wait for the "pressure from without" to cause them to act. The standard, too, of education should be placed high, and thus that love of enquiry and investigation will be awakened among the pupils which, as they become members of the profession, will diffuse itself throughout the mass, enabling it

to take its standing, where it has an unquestionable right, as second to the practice of human medicine.

To this end, true principles must be inculcated, and their basis necessarily is science. Any indifference here is fatal, since principles are to practice what the fountain is to the stream, or the foundation to the building, which, if not securely laid, will, on the day of trial, fail to support the superstructure. The great use of practical science is the discovery of these principles; nevertheless, I am not ignorant of the fact, for it is too patent, that most persons esteem knowledge only as it contributes to the obtainment of wealth —after which, perhaps, we all too earnestly seek; and then, to make use of the metaphor of Lord Bacon, "it is as the golden ball thrown before Atalanta, which, while she stoops to take it up, the race is hindered." It is the ignorant man alone that affects to contemn science. It is hard to be acquired, he says, and no good results from an acquaintance with it. But what is science? We will let Sir H. Davy answer this question. "It is only the refinement of common sense, guided by experience; generally substituting sound and rational principles for vague and popular prejudices." Depend upon it, the struggle between truth and science on the one hand, and ignorance and empiricism on the other, is as the morning dawn contending with the shades of the receding night. For a little while the former may appear to be somewhat obscured, but the brightness of the noon-tide light will assuredly burst forth, even though it may seem to tarry.

It has been truly said, that the present is a PRACTICAL age; not one in which principles are discovered so much as that they are applied and rendered useful. Nor are we, at the same time, neglectful of the elegancies of life. By a powerful writer it has been observed, "Science, in this our day, accomplishes unheard-of wonders. It makes an explosive power of cotton, a horse of steam, a workman of the voltaic battery, a messenger of the electric fluid, a painter of the sun. It bedews itself with subterranean streams, and warms itself with central fires. It opens upon the infinite these two windows—the telescope upon the infinitely great, and the microscope upon the infinitely little; and it finds stars in the first abyss, and insects in the second, by which it proves the existence of a God!"

To some of you this may seem a digression; but I feel assured that, to the neglect of the inculcation of scientific principles must be attributed the absurdities that have prevailed, and do still prevail, in the practice of physic, and to

which I shall presently more particularly allude. And believe me, when I say,

> "Divine philosophy
> Is not harsh and crabbed, as dull fools suppose;
> But musical as is Apollo's lute,
> And a perpetual feast of nectared sweets
> Where no crude surfeit reigns."

Those of you who are just entering upon your studies will naturally expect from me an outline thereof, with the aids to be afforded you, and how the shoals and quicksands are to be avoided that surround the haven of your hopes. Nor will you refuse a word or two of advice from one, who, while he is not altogether ignorant of your wishes and your wants, earnestly desires to see the veterinary profession maintain its place among the other divisions of science, and to progress in common with them. And to you he looks as the means by which this great end is to be accomplished. On you, therefore, in his opinion, will depend, in a great measure, the future "weal or woe" of this profession. How necessary, then, is it that you should be well and rightly instructed; for correct principles are abiding. Kings and dynasties may change, but truth ever remains the same. "Once a fact always a fact," is an axiom; and depending upon impressions made, and habits acquired in early life, will be the character of the man.

Now, you are aware, that in the erection of a great building, many artificers are engaged. All cannot be the designers or architects thereof. Many must be contented to be "hewers of wood and drawers of water." To some, the execution of the lighter and merely ornamental portions are assigned; while others are occupied with the rougher and more substantial parts. Still, all are necessary to the perfecting of the edifice. Thus is it shown that union among the members of a profession, and co-operation are called for. "The eye cannot say to the hand, I have no need of thee; nor again, the head to the feet, I have no need of you."

Moreover, I have a two-fold object in speaking thus. I know it is not uncommon for the painstaking and industrious student, who ultimately is sure to succeed, to compare himself with others, and to despond because he does not at the first take so high a standing as they, or make equal advances with them. Despair not; you must in the end reap your reward. Faint not; the hill may at first sight appear steep and difficult of ascent, but by perseverance you will reach its summit; and proportionate to the amount of your labour will

be your satisfaction when this is attained; only remember *the strength to achieve this is not all your own.*

Come we now to YOUR STUDIES. These embrace the anatomy, physiology, and pathology of the horse, ox, sheep, pig, and dog, or of the domesticated animals generally; with chemistry, as applied to veterinary medicine, and materia medica. The principles and the practice of shoeing will likewise call for some attention on your part; nor must you be ignorant of veterinary jurisprudence.

Your aids to these studies will be: 1st, the lectures delivered within this theatre by the respective expositors of those divisions of science. And here permit a word of expostulation to be offered in all kindness. I cannot too strongly condemn the practice, which has somewhat increased of late years, of indulging in boisterous mirth before the beginning of the lectures, and which sometimes scarcely subsides when the lecturer commences his instructions. Occasionally it is productive of sibilant sounds that become continuous during his allotted hour, distracting the attention of those pupils who are desirous of acquiring information, and compelling the lecturer to speak in the way of correction and advice.

Depend upon it, such a course of procedure unfits the mind rightly to receive proper impressions, or should they be made, they are but evanescent. The beautiful concentric circles—no unfit resemblance, perhaps, of the diffusion of knowledge—caused by the falling stone, are seen only in the deep and placid lake: the turbulent and shallow stream yields them not; as the sweetest strains of music are lost in the stormy blast and tempest.

Nor let it be thought by you, that an attendance merely on the lectures—regular and continuous though this be—is all that is required of you. This, possibly, is the *least* part of your duty. You must endeavour, by afterwards reflecting on what you have heard, to become intimately familiar with the truths enunciated, and to write them on your memories as with a pen of adamant. The utmost the lecturer can do, is to give you little more than an outline of his subject, graphic and correct it may and should be, and he has doubtlessly laboured hard to make it so, *but you must fill this up by subsequent study.*

As the 2nd aid may be placed the information you will receive during the visits paid by the appointed professors to the animals in the infirmary, constituting "hospital practice." This I consider a most valuable part of your instructions, and from its being conveyed in a colloquial form, it is more likely

to take a firm hold on the mind, and become permanent, than if it were communicated in any other way. But here, again, think not that to be present, and to listen, is all you will have to do: it is far otherwise; for should a case of more than ordinary interest occur, one in which the symptoms are somewhat ambiguous, *you must watch their development for yourself, and carefully note down the changes that take place.* By so doing you will not only become conversant with the protean forms in which desease sometimes shows itself, and be enabled to detect its phases, but you will be unconsciously cultivating habits of thought and observation, so as to trace effects up to their causes, or, in other words, correctly to *diagnose*, and thus to *prognosticate* what in all probability the result will be. One case thus minutely noticed by you, will teach you more than volumes of books written on the subject, or months of attendance for mere form's sake; since it is not so much by the number of patients you may have seen, or the variety of diseases—valuable as all this is—that you will be profited, as by the pertinent inquiries instituted by you, and the closeness of your observance of Nature's deviations.

You will, also, in your turn, be expected to undertake the "dressership" for the appointed period. No slight privilege this, but one, I fear, not sufficiently estimated. During it that facility in the exhibition of medicines may be acquired, with an amount of practical "tact," which although it must be allowed to be only of lesser moment, is nevertheless of some worth, especially in the opinion of the "many;" while the want of it might subject you both to considerable annoyance and loss.

As the 3rd aid, I would place the assistance you will receive in the dissecting-room. And here, too, you must work for yourself, or you will never become an anatomist; since neither reading nor demonstrations will make you one, indispensable as these are as adjuvants.

Anatomy has been stated to be the foundation of medical science; and it is essential that this foundation be both securely and correctly laid. But remember it is *only* the foundation; and were we to stop here, how would the goodly edifice be erected? On it is built PHYSIOLOGY; for without a knowledge of the structure, how can we comprehend the use or function of a part? On this again rests PATHOLOGY, which is the consequence of a change, either functional or organic, that has taken place in some portion of the frame; to explain which we have often to call to our assistance the principles of Chemistry; and to correct the derangement that exists, we make use of certain medicinal or other agents, constituting THERAPEUTICS.

Thus the various divisions of medical science are as the stones of the stately temple, which while they serve to build it up, also afford to each other mutual support. On this account, to each should be given due consideration; and were it not that I should be charged with something like treason, or stating that which almost amounts to sedition, I should be inclined to say that too much attention is generally paid to anatomy. At any rate, a very large portion of *your* time is set apart for it, and the other sections of your studies must be neglected by you unless a most careful division of it be made, and the utmost diligence exercised. Both of which you certainly ought to do, since "there is a time for every purpose and for every work," and by a little method, much may be accomplished.

It has been well observed, that "indecision and want of method as to the employment of time, is a source of much daily waste. Let the pupil, therefore, wisely and considerately arrange the periods for study, and also for recreation, and having laid down his plan, see that it is faithfully and rigorously adhered to." Let me not be misunderstood. I do not by these observations mean to imply that anatomy can be too much studied by the medical man—and the same may be said of all the allied sciences; but where the time is limited, as yours is, it should be justly apportioned, so that each section of your studies may have its proper share of attention; for it will not be enough that you excel in one. You know to have "good" against your name in one division only, will not suffice in the ordeal through which many of you will shortly have to pass; neither will it avail you in after life.

As a 4th aid, I would name the "Veterinary Medical Association," at the hebdomadal meetings of which, I do not hesitate to say, much information may be gained, provided the debates be rightly conducted. The controversy attendant on scientific discussion is sure to eventuate in the eliciting of truth; and the differences of professional opinion that so frequently arise, awaken thought and lead to research. And "as iron sharpens iron," so the salutary procreation thus produced strengthens the mind for argument, and furnishes it with the lawful weapons of controversial defence.

It was a remark of the late Professor Coleman's, that he always knew when these meetings took place, and a debate of more than ordinary interest had occurred; for on the following morning he saw the students collected together in little groups, engaged in animated conversation;

and he had more questions to answer on that day than on any other in the week.

To this Society is attached a library of reference and circulation, containing 1000 volumes.

This leads me to observe that a course of systematic reading in connection with every branch of your studies is indispensable. Without it, you can make no real progress; and remember it must be always accompanied with deep and deliberate thought. Better far to read little and think much, than to read much and think little. It is by reflection that knowledge is made, as it were, a "part and parcel" of the mind; and of this be assured, *mere desultory reading is comparatively nothing worth.*

Your evenings, in all probability, will be devoted to this, although many prefer the mornings, from the then clearness of the intellectual faculties. Presuming it to be the first named, the plan you should adopt is, to read carefully over the subject of each lecture you have heard during the day, making notes as you go on. These you will afterwards add to the *short* notes taken by you during the lecture; for it is advisable that short notes be then taken; but not lengthened ones, as these break the thread of the discourse or argument. The memory of most persons is too treacherous to be entrusted with many important facts, and minute details it is scarcely ever retentive of. Here, too, will be perceived the advantages of method.

The 5th and crowning aid to which I shall advert is, the ready access you have to your teachers in all seasons of doubt and emergency. A teacher does not half fulfil his duties who is approachable only in the lecture-room. His desire should be, and I believe generally is, to be considered as a *friend* to the student. He has many sympathies in common with him. He was once a student himself, and he well remembers the many difficulties that presented themselves to him at the beginning of his studies. How harsh, and apparently unmeaning, were some of the terms that first struck his ear; how many complex ideas others served to express; how very unpleasant was this act, and seemingly useless that; until a friend kindly undertook to point out the advantages each possessed. It was then he took courage and pressed onwards; difficulties were at once removed, and the mountain became a plain.

But the teacher is a student still, only he has to work in the deeper parts of the mine. What wonder, then, is it, that as your pursuits are alike, and your objects the same, he possesses for you a fellow-feeling, and is always ready and

desirous to assist the inquiring and anxious mind? It is true he has gone further into the recesses of the mine than you have, so as to disclose its riches, but this is for your gain. Were it not so, you would have no confidence in him, nor go to him for information and advice. Go, then, and be assured it will afford him pleasure to be your counsellor and guide; and gratifying to him to be instrumental in helping you to remove that which might have appeared almost an impossibility, and pressed upon you like an incubus.

This brings me to speak of the choice of your associates. But before I do so, allow me to state I could have wished to have been able to add a sixth aid, namely, laboratory practice or manipulations. When I know that in almost all medical schools, and even in agricultural colleges, students are practically taught in the laboratory, I do think that this ought not to be neglected here. The time, however, cannot be far distant, when this will be added to your curriculum. All these additions, it is true, will lead to an extension of the period of your study, but in the end the advantage will be yours; while through you the profession, as a body, and the public will be benefitted.

In reference to your associates I would say,—*Let your more intimate companions be those who are wiser than yourself, and whose conduct has been and is consistent;* for as "Evil communications corrupt good manners," so association with wise men leads to the possession of wisdom. "Show me the company a man keeps, and I will tell you the character of the man," is a saying no less trite than true. The ancient Jews had a proverb, that those who had lain among onions would smell of them. Equally as apposite, but far more beautiful, is the apologue of the Persian moralist Saadi. It runs thus: "A friend put into my hand a piece of scented clay. I took it, and said to it, 'Art thou musk or ambergris, for I am charmed with thy perfume?' It answered: 'I was a despicable piece of clay, but I have kept for some time the company of the rose, and the sweet quality of my companion has been communicated to me, or I should still have been what I appear to be—only a bit of clay.'"

Thus, gentlemen, have I offered you an outline of your studies, with the aids you will receive while prosecuting them; and I have interwoven some few words of advice, so that you may avoid the impending rocks, and not make shipwreck of your expectations. Those among you who have made some progress in them, will pardon this mere elementary matter. You need not that I should stimulate you to exertion, for you know full well the solid satisfaction

the mind derives from being engaged in the acquirement of knowledge; it being incontrovertible, that as we advance in this pursuit, new sources of gratification are opened up to us with the increase of an intellectual strength; the mind being like the body—the more it is exercised, the stronger it becomes.

I have spoken as unto those who are capable of appreciating my intentions, and have endeavoured to point out to you the desirability of your becoming conversant with scientific principles, these being as necessary to you in your professional avocation as the pole-star is to the mariner while traversing the trackless ocean. Yet we are told before we begin to build a tower, to sit down and count the cost thereof; and certainly we should be fully assured that the studies we are about to enter upon will repay the labour of investigation, and the advantages to be derived from them compensate for the time and means expended while becoming acquainted with them. Convinced of this, in antecedent years I have essayed to give something like a *series* of lectures; and having first spoken of the advantages medicine had derived from chemistry, and its then state, I considered the function of digestion with the food of animals, and showed how alterations in either may and do become causes of disease, and how by the aid science affords us, we can often explain and likewise remove the effects that are produced. To this succeeded the air they breathe, with the function of respiration. And here, too, it was seen how deviations from the normal state frequently receive explanation by a reference to chemical laws, and by the same means the evil which has arisen is counteracted. Lastly, the water they drink was commented on by me in a similar way.

It is now my intention briefly to review some of the curative methods that were adopted ere science had assumed its rightful place in connexion with medicine, and thus to complete the series. In doing so I shall have, of course, to refer to veterinary practice; and it will not surprise you in the least to find that equal, if not greater, absurdities prevailed in it, through an ignorance of right principles, than in the human. We shall thus bring the theology of the past and the present before you, so as to ascertain if any benefits have really resulted from an application of science, and if all has yet been done that might be. Need I say, the contrast will be a striking one? for a strange medley presents itself to me in the retrospect, and I hardly know what to do with the farrago of trash that lies before me; while almost all of you, I doubt not, from the storehouse of your

memories, can add to it, as many of these foolish customs are yet retained by the ignorant and the charlatan. Still, extraordinary as it may seem to us, some of our wisest and best men were believers in these so-called remedies; but you will bear in mind, that in their day science had not made such advances as it has in ours; and vague and conjectural opinions were entertained by them, arising from the constitution of the agents employed not being then known. Moreover, there is this difference always to be observed: "Science renders the powers of nature the servants of man, while empiricism reverses this, and subjects man to their service." (Liebig). And "although man cannot create, he can employ the created. 'Tis his to investigate the physical laws that govern matter, and the organic laws that govern life. He can likewise seize the subtil elements—heat, light, and electricity; bind them as coursers to his chariot, and compel them to do his bidding."

But to my subject. By the ancients medicine was considered a science worthy of the Gods. And true it is that kings and princes, and those who ministered at the altar, became its dispensers. It is also well known that the earlier physicians practised the veterinary art in common with that of human medicine; and since the powers of life are the same in one animal as the other, the laws that govern them the same, and the physical agents operating on them every moment of their existence the same, what wonder is it that such a union should have once existed?

The earlier history of this science is involved in obscurity, through the lapse of ages. Its origin may have been nearly coeval with the fall of man, when he had eaten of—

> "The fruit
> Of that forbidden tree, whose mortal taste
> Brought death into our world, and all our woe;"

for then, and not till then, did disease exist.

We are told by Herodotus that the Chaldeans and Babylonians placed their sick in the public roads and markets so that passers by might communicate to them the remedies they had seen used in similar cases. The Egyptians, who were famed for their medical knowledge, took them to the temple of their God Serapis, and thus the priests became the first dispensers of medicine. The Greeks surpassed the Egyptians both in learning and science, and among them lived Esculapius, the reputed father of physic, whom the mythologists make the son of Apollo. A temple was dedicated to him in Greece, and there diseases with their

cures were recorded on tablets of marble. These temple-registers soon became the means by which a number of medical facts were accumulated, and these being carefully arranged, led to the practice of medicine as a profession.

We are further informed that Esculapius was a pupil of the Centaur Chiron, to whom he was indebted for a knowledge of herbs and medicinal plants.

The Centaurs, I need hardly stop to tell you, were fabulous beings made up of half men and half horses. They inhabited Thessaly, which was an Egyptian colony, and were always at war with the Lapithæ, to whom the invention of bits and bridles for horses is attributed. Probably this is an allusion to the checks they gave the Centaurs, who possibly were nothing more than marauders from the northern parts of Greece. The representation of these combats on the frieze of the Parthenon at Athens, must be familiar to most of you.

A figure of Chiron has been chosen as the heraldic crest of the Royal College of Veterinary Surgeons. He has been supposed by Mr. Bracy Clarke to have been an Egyptian, or of Egyptian origin; but the Greeks, rather than acknowledge any assistance they derived from their neighbours, referred it to their fanciful gods. I allude to him, because it is said that there are many veterinary recipes still extant handed down from him. Need I add that most of these consist of a jumbling together of heterogeneous substances, many of which we know nothing about at the present time? Often, too, we find the same agents introduced under different names, while their number is almost legion. We cannot, consequently, hope to gain much from this source.

Yet among these receipts we find one for the boasted Diapente of the farrier. It had a name, too, in that day, as it was ordered "to be very carefully made, and kept ready for use." I had almost expressed a wish that it was compounded now as directed by our progenitor Chiron; namely, of equal parts gentian root, birthwort, myrrh, shavings of ivory and bay-berries; for I fear the greater part of that sold consists of little more than the ground refuse of tinctures, and the sweepings of the drug warehouse.

As Greece declined, it is well known that Rome advanced in power and wealth; and among the Romans the veterinary art met with its admirers. By them, it would seem to have been associated with rural affairs, if we may judge from the allusions made to it in their writings, as well as by the poet Virgil. A most consistent and natural junction.

On the downfall of the Roman Empire, the sciences, arts, and literature, shared in the general wreck. Then the fanatic

Caliph Omar burnt the famous Alexandrian Library, on the grounds, that if the books it contained agreed with the Koran there could be no need of them, and if otherwise, they ought not to exist. Those were the dark ages, when all learning was confined to a few individuals living within cloisters or monasteries, and the veterinary art was but little cared for.

But with the revival of letters, and the introduction of printing, this, in common with the other branch of medicine, was soon again raised into importance. Time, however, the great innovator, has wrought its changes here as well as elsewhere. A separation of the professions has taken place, and schools are now established both at home and abroad, where instructions are given in both divisions of medical science. And this, doubtlessly, has been as much the result of necessity as of choice, while the advantages each has derived from it are too obvious to require any comment.

I need not stop to particularise, but almost every European state has its school of veterinary medicine. The French, who were the first in modern times to take this matter up, have also formed one in Egypt, and there is, or was, one in Moscow. America has been even slower than England in this respect, and, except that a school has been lately opened at Montreal, in Canada, I am not aware of there being one in all that vast and influential territory. The United States is without one. Surely a splendid field is here.

But it will be asked, what have these schools done? Is quackery less rife than it was? I answer, no, not a whit; and it will be a long time, if ever, ere empiricism will cease to exert its baneful influence over medicine. With an unblushing front, it takes its stand as boldly, in this, our day of advancing science, as ever it did, nor does it in the least fear exposure. And hear what a high authority, John Hunter, says on this subject. "The uncertainty of cures, both of physic and surgery, gives the hardy and ignorant empiric frequent opportunities of exulting over science. Ignorance is rash and fearless; knowledge is always cautious and circumspect. The first amidst much mischief, now and then boasts a random cure; the other, though active where there is a prospect of success, is frequently restrained by the fear of doing harm. At the same time, by this caution, and a proper view of the bounds of art, the rational practitioner enjoys much secret satisfaction, and has frequently, in his turn, ample cause of triumph over empiricism."

But has not superstition given way under their enlightened influence? I fear not, if reliance can be placed on what from

time to time appears in the public journals. There has ever been a disposition in the human mind to attribute to supernatural causes events which it is unable clearly to comprehend; hence the use of amulets and charms. And that these are very ancient, is proved by Layard's finding, in the ruins of Babylonia, several bowls or cups made of terra cotta, round the inner surface of which were inscriptions in the Chaldean language; the letters being an admixture of the Syriac and Palmyrine, and in some instances resembling the ancient Phœnician. The subject of these inscriptions is an amulet or charm against evil spirits, diseases, and every kind of misfortune. The writers of them are supposed to have been Hebrews, who adopted the system from the Chaldeans. The mode of using them has been conjectured to be that of dissolving the writing off by means of water, and drinking it, a practice now not uncommon in the East. The Lama doctor exceeds even this, for in the absence of his remedy, he writes the *name* thereof upon a scrap of paper, moistens it with his saliva, and gives it to his patient in the form of a pill; averring that to swallow the name of a remedy, or the remedy itself, is precisely the same.

You are all aware of the royal touch having been resorted to in England, as a cure for the scrofulous affection termed the king's evil; likewise of the belief, that if the hand of a man who had been hung was placed on an enlargement of the thyroid gland, it would cause its dispersion.

At Munich, in 1852, at the execution of a criminal, men and women rushed to dip their handkerchiefs and rags in the flowing blood, as a remedy for epilepsy and consumption, and AS A MEANS OF DRAWING LUCKY NUMBERS IN THE LOTTERY!

Only last month (Sept., 1854) a decrepid old woman, labouring under paralysis, was seen begging pence, in the porch of Exeter Cathedral, of the young men as they came out; the "wise man" having told her that if she could get forty pennies from forty unmarried men, she would be cured of her malady!

But it may be justly objected, that these modes of cure were adopted only for and by the human subject, since the lower animals could not possibly be affected by expedients intended to influence the mind, and through it the body. In agreement with this, Roger Bacon states that "physicians use figures and charms, knowing that the raising of the imagination is of great efficacy in curing diseases of the body. Raising the soul from impurity to health, by joy and confidence, is done by charms, for they induce the patient to

receive the medicine with greater faith. They excite courage, more liberal confidence and hope;" and so on. But that the like means were, and still are, employed by the mere pretender to veterinary science, and also maintain their hold on the minds of the vulgar, bear with me while I adduce a few instances in proof.

Visiting, during the past summer, a member of the profession, who stands high in the estimation of his employers—*and I believe all may who will*—he told me that it was by no means uncommon for a certain class of farmers in his neighbourhood, when any of their horses or cattle were ill, to solicit him to "charm" them; and although he strongly condemns the thing on account of its absurdity, many, nevertheless, believe he does "charm," because, say they, he is so clever in the cure of diseases; but he does it "quietly," lest it should be known.

Some years since, as a great favour, the secret of one of these charms was communicated to me. It was a cure for red water in cattle, and consisted of some perverted portions of Scripture, which the impostor read *on the name of the animal being given to him*, for it was not necessary for him to see it even.

When a boy, I knew one of these so-called "wise men" or "conjurors" well, for we supplied him, and that pretty largely too, with drugs for cattle and horses; but, whether it was by their aid, or the magic arts he practised on those deluded creatures who ignorantly sought his assistance, that he effected his cures, I will leave you to judge.

During the present year, a farmer regrettingly said to a bookseller, What a great misfortune it is that old "Moore's Almanack" no longer has the signs in it. On being asked the reason, he replied, "Why, you see we used to wean colts and calves by those signs, and as there are now none in it, I weaned a colt at the wrong time, for it died of disease of the heart."

We have in this last a little of the remains of alchemy, for the alchemists considered the human body a microscosm. The heart, representing the vital principle, was placed by them under the influence of the sun; while the brain was regulated and controlled by the moon; hence, the word lunacy, it being supposed that insane persons were differently affected during the phases of that luminary. The planets also exerted their influence over the body: thus, Jupiter presided over lungs, Mars over the liver, Saturn over the spleen, Venus over the kidneys, and Mercury over the organs of generation.

The following is extracted from a late number of the "Sherborne Mercury:"

"Last week a man, of the town of Axbridge, sold his horse to a person at Cheddar for the dogs. After the horse was shot and skinned, the companion of the person to whom it had formerly belonged, asked for the heart. 'What do you want to do with it?' said the person who had purchased it. 'Ta'ant I,' said the man, 'but 'tis Tom there; he da want to roast un.' 'What! to eat?' 'Noa, but he's agoing to stick im we pins, and roast un, for vaulk do tell he that nif'so be he do do that there, his horses will be better afterwards; for this is two as he've been 'bliged to kill w'thin two months, and he da think he's overlooked,' that is bewitched, or the 'evil eye' had looked upon him."

I was told, a short time since, of a practitioner who, on being called in to attend a horse lame from a prick caused by a nail, carefully took the nail home and anointed *it*. Doubtless, he was a classic, and remembered the rust of the spear of Telephus, mentioned by Homer as a cure for the wounds it had been the cause of. Or else the sympathetic powder of Sir Kenelm Digby, Knight of Montpelier, which, according to Dr. Paris, whenever any wound had been inflicted, this powder was applied to the weapon that produced it, while the weapon itself was covered with ointment, and dressed two or three times a-day! Yet this folly led to the present rational system of treating those wounds; it being essentially necessary to the perfecting of the cure, that the edges of the wound should be brought in apposition, and carefully bound up with clean linen rags; but, above all, *to be let alone for seven days!* Here we see that nature was allowed to carry on her own reparative process; and science coming to the support of reason, showed that neither the unguents nor the powder had any influence on the weapon: and that sympathy should exist between it and the wound was too preposterous an opinion to be very long entertained; therefore, the only deducible inference was, that nature being left to herself had brought about the cure, and thus a scientific principle became established.

For diseases of cattle, I believe these ridiculous practices were even still more common. Travellers in the East—where, possibly, through the prevalence of a false religion, the mind is enslaved and immured in worse than Stygian darkness—have recorded, that in Thibet and Cashmere, the owners of flocks and herds, which abound there, have boasted to them of the possession of charms to ward off diseases. These, on inspection, have proved to be nothing more than directions

for the general treatment of their animals, given to them by the late Mr. Moorcroft during his residence there. He was, as many of you are aware, one of the first professors of this College. I merely mention this to show how general is the belief in that which is marvellous, and how prone the mind is to become impressed with anything that is mysterious. But we have to do with that which is similar nearer home, and of which I will cite a few illustrations.

When the pulmonary epizootic was prevalent in Northumberland, the following plan was resorted to to prevent its spreading: They kindled a fire by rubbing two pieces of hard wood together, and this they carried about in an old shoe, from one farm-house to another, and with it a bonfire being lighted, the cattle were made to pass through it. This they considered a perfect prophylactic. Here is something like the revival of a heathen rite, it being derived from the worship of—

> "Moloch, horrid king, besmeared with blood
> Of human sacrifice, and parent's tears;
> Though, for the noise of drums and timbrels loud,
> Their children's cries unheard *that passed through fire*
> To his grim idols."

The Druids, too, lighted a fire on the eve of Midsummer-day, which was called by them the Sacred Fire. When all other fires were put out, they were to be rekindled from this. The tops of the hills in most of the counties in England, where there are to be seen barrows and excavations, were usually the places chosen for these fires, so that they might be visible to a great distance. Around them the people danced, and the cattle were driven through them to keep away evil spirits and diseases.

In some parts of Staffordshire, I am told, it is a common practice to *dress the water* of the cow, as they term it, when the animal is affected with red-water (*Hæmo-albuminuria*—Simonds). This is done by mixing the urine with sulphuric acid, and burying it.

A charm to remove warts consists in cutting one of the warts off, tying it to a black snail, and then hanging the two together on the twig of a blackthorn. They believe, that as the wart and the snail decay, so will all the other warts.

A plan to cure foot-rot in sheep in Sussex, is to watch the place where the animal rests his diseased foot; then carefully cut the turf out, and hang it on a white thorn. As the turf moulders away, so they say the disease will as gradually disappear in the flock.

The following account appeared in the 'Cornwall Gazette' for 1848:—"A farmer in the parish of Bodmin, believing that

some ailment of his cattle was the consequence of their having been bewitched, has recently adopted as a remedy the plan of killing a chicken, and roasting its heart *after sticking it over with pins.*" This experiment has been so recently adopted by him, the account goes on to state, that the enlightened agriculturist is still waiting the result. In the mean time he is in doubt as to the proper side, right or left, on which, for his own immunity, and the health of his cattle, he ought to pass when he meets the supposed witch.

In Ireland, where I fear there is more superstition than in England, if the cow is going to calve, a piece of red worsted must be tied round the tail to prevent the fairies taking the milk away; and if the animal gets sick, the owner must go to the nearest fairy lake to offer a piece of rope that has been used with the cow, and some pats of butter; which last are thrown on the water for those little elfins. To lead diseased horses, and other domesticated animals, to holy wells is very commonly practised. Farcy, they say, is cured by a seventh son hugging the affected limb every morning; and glanders by putting certain herbs into the animal's ears.

A common remedy for red-water in cattle, with them, is to give a live frog, but they very wisely follow it up with a dose of salts Vicious horses, they aver, may be rendered perfectly quiet by whispering something to them; but what they say they keep a most profound secret.

Camden, speaking of the Irish, says:—"In no case must you praise a horse, or any other beast, until you say 'God bless him,' or first spit upon him. Should you fail in this, and any harm befal the animal within three days after, you are sought for so that you may mumble a prayer in his right ear. They think there be some that bewitch their horses with looking on them, and then they use the help of some old hags, who, saying a few prayers with a loud voice, make them well again."

And now for a climax to these absurdities, at which one almost shudders, only it is to be hoped that in the statement there is some mistake:—

In Bombay, in September, 1852, a man was arraigned at the Supreme Court for having robbed a so-called witch of some property, and also of a quantity of famous ointment that she kept and used for the cure of all kinds of diseases, both in man and beast. In the course of the inquiry she stated, that the ointment was made as follows:—"Bring up a boy, feed him well, give him purgatives, write Arabic characters on his body, and then take him and plunge him into a panful of boiling-hot oil. The bones are then to be taken out, and the ointment is made."

Still the question reverts—*What have the schools done?* I answer much, very much, if not all that was and might have been expected from them. This institution has ruthlessly and for ever swept away, as medicaments, the whole heap of "compound powders" that had been so long employed by farriers, and which to druggists constituted so profitable an article of commerce. Tons of these I have made. They consisted of about one part of the genuine ground root or seeds, mixed with four to six parts, depending upon circumstances, of some farinaceous matter, such as bean or pea-meal, ground linseed cake, &c., coloured and scented *secundum artem*.

And do not think that this was wholly a trick on the part of the druggist, or constituted altogether an act of dishonesty in him. It is true that he oftentimes thus got rid of drugs that he could not otherwise sell, and it furnished a means by which much that would have been mere refuse, was disposed of to his gain, but the fault of this rested chiefly with the farriers, if not entirely: firstly, because they would not give the price of a genuine article, and secondly, because they had a number of recipes for diseases, which had been handed down —from generation to generation as a kind of heir-loom in their families—into which these compounds entered; and being ignorant of the nature of drugs, they were not contented unless these nearly worthless powders were obtained.

You will be differently taught; and the necessity of your administering none but genuine articles will be inculcated, since on these alone can reliance be placed. Opportunities also present themselves here for your becoming acquainted with the external characters of the drugs you will in all probability make use of, with their pharmaceutical compounds; and a little careful observation will render you so familiar with them, as that at once you will be able to decide between one of good quality, and another of inferior or bad quality; while for your chemicals, as you proceed in your studies, you will find that there are certain tests to be applied by which their genuineness is to be ascertained, and any adulterations detected.

Now, what is this but some of the benefits that have been derived from schools, a result of the application of the principles of science to medicine?

In like manner, a large number of unnecessary cretaceous compounds, under the names of sealed-earths, boles, burnt hartshorn, calcined oyster shells, prepared crabs' eyes and crabs' claws, have been all discarded from the pharmacopœia; and why? Simply because science has demonstrated that

essentially they consist of one and the same substance, so that washed common chalk is the only agent of this class retained. It is singular that Layard, in his excavations at Nineveh found some of the first named of these sealed-earths; thus proving them to be of very ancient usage. So, many alkaline salts obtained from different vegetables have given place to the carbonates of soda and potash; chemistry having shown that one or the other of these is the available compound.

Again, the use of oil of bricks, of earthworms, and swallows, has become obsolete; with that of white, black, and green oils; other and more consistent forms being substituted.

There can be no doubt, moreover, but that much good has arisen from the many experiments performed at this institution for the purpose of ascertaining the effects on the horse, and other animals, of most of the articles of the materia medica of the human practitioner. These led to the compounds of antimony, with one exception—the potassio-tartrate—being considered of questionable utility, although they have long held a place in the estimation of the horseman. At any rate, their action is principally referable to a peculiar state of the system, over which we have but little control. I will, however, now only advert to those experiments by Professor Coleman on purgative agents, by which their number, so far as the veterinary surgeon is concerned, became at once considerably reduced, and certainty of operation secured; he having ascertained that the more active and drastic purges to man, as scammony, colocynth, and gamboge, with rhubarb, senna, and jalap, were to the horse ineffective as such, as they merely caused irritation without any corresponding action of the bowels.

Nevertheless, I am not quite satisfied but that through this some sacrifice has been made to the shrine of simplicity in prescribing; and that we have lost sight of the advantages known to result from a judicious combination of medicinal substances, since scarcely any two agents, even of the same class, produce their effects in precisely the same way: hence smaller doses of two, when combined, will operate more satisfactorily than much larger doses of one given alone.

Here, without any controversy, is another proof of the good schools have accomplished; for chemistry being taught in them, a knowledge of its laws is imperatively called for under this head, lest incompatible bodies should be mixed together, and a new compound formed, whose influence

on the organism may be dissimilar to that we are desirous of producing, or even quite the opposite.

This is a subject that was dwelt upon by me in a previous introductory address, "On the advantages Medicine has derived from an application of Chemistry to it;" therefore I need not enlarge. Those must have been palmy days for medicine when the barber bled and drew teeth, and the cowleech and the farrier fearlessly administered their nostrums for diseases of which they knew not sometimes the names, much less their nature. The mind was not then bewildered by learning, nor trammelled with science; while principles were unheeded, because unknown. A good receipt was all that was asked or cared for, and when obtained, it was kept by its fortunate possessor as a secret not to be divulged; so that when he died, "wisdom died with him." Alas! for the progress of science. This awakened no solicitude in such characters as these. As they entered upon the practice of their calling, so they left it; without the addition of a single principle, or perhaps one new fact. But a brighter day has dawned on us. Strange, passing strange, too, were the substances once employed as medicinal agents. Again I have to ask your forbearance in referring to such matters. I shall, however, select a few only, yet these will be quite enough to prove my position.

From a portion of Egyptian mummy *three* different kinds of medicine were prepared. A human bone yielded *four* kinds; a skull *seven* kinds; and a variety of moss found growing on a human skull was believed to render the part to which it was applied invulnerable. Lady-birds were recommended for measles; earwigs for nervous affections; cockchafers for the bites of mad dogs; ticks for erysipelas; and wood-lice were given as aperients. The spittle of a fasting man was held to be good against the bites of serpents. His nails, bound to the navel, would help to remove dropsy, and the filth of his ears was a remedy for colic. Nor were the fæces unemployed; nor the urine. That of a husband, when drank by the wife, was said to assist in difficult parturition. That of a boy was good for ulcerations of the eyes, and as a gargle for relaxations of the uvula; whilst the salt obtained from it was excellent against the stone; it being taken in any convenient fluid.

According to Albertus Magnus, a very ancient writer, the right eye of a hedgehog fried in oil, and kept in a brass vessel, and used as an ointment to the eyes, will enable a person to see as well by night as by day. Pliny states that the gall of a hedgehog, mixed with the brain of a bat, is an

excellent application for the removal of superfluous hairs! Celsus, as a cure for epilepsy, mentions the warm blood of a recently slain gladiator, or a certain quantity of human or horse flesh to be given. While others advocate some blood taken from the tip of the tail of a black cat. Writers on demonology assure us that three scruples of the ashes of a witch, well and carefully burnt at a stake, are a sure catholicon against all the evil of witchcraft.

Roasted toads were extolled as specifics for the gout, and the following is the receipt in 'Colborne's Dispensatory.' "Put the toads alive into an earthen pot, and dry them in an oven moderately heated till they become fit to be powdered."

An ointment made of toads has been advocated in my time for scrofulous swellings; and I remember an old woman who made it. Her method was to place a pipkin over the fire containing some lard, and when it began to boil she took the poor toad up by the left leg, and, with an affectation of mystery, dropped it in and let it boil for some time.

Again, I anticipate your objection. You will say all these expedients were for the human subject and not for the horse. Very true, but that similar and equally inconsistent ones were resorted to in the practice of veterinary medicine you may find abundant proof if you refer to the older writers on farriery—as Blunderville, Gervase Markham, Mascal, and others. I have turned down some pages to refer to, but time will not permit me to do so, and you will suffer no loss. Let us come to comparatively modern times. Not long since it was common in Shropshire when a horse was attacked with spasmodic colic, to lead him to a pond to *see* the water. If this failed to give relief, urine and soot were administered to him; and these proving ineffectual, a chicken was killed and the entrails while hot forced down his throat. Some persons give dried bees in ale, and others the dung of geese in warm milk for this malady. Gin and pepper you know to be often given; but there is no difficulty in assigning "a why and a wherefore" for this.

To pour boiling oil into fistulæ of the poll or withers, was very general among farriers, and some used melted lead instead. Or if a caustic were needed, it was a matter of indifference to them whether corrosive sublimate, or arsenic first presented itself, they being ignorant of the different effects produced on the tissues by these substances; the one forming with the albuminoid principles an insoluble compound, thus limiting its action, while with the other this does not take place, and its influence therefore becomes more

extended. Yet the *careful* practitioner may successfully employ either the one or the other.

Boiling oil would appear to be a very old remedy, for Major Edwardes, in his 'Year in the Punjab,' referring to the practice of the native doctors in India, says, that "if a man's arm were carried off at the elbow, he was made by his 'medical adviser' to plunge the stump into a cauldron of hot oil, salt, and blue-stone, whereby the flesh shrivelled up like the end of a leg of mutton."

For these affections you are aware that milder measures are now adopted, and such as are more in consonance with science, while they are found to be equally as effective; while for ordinary wounds the modern plan of treatment is extremely simple. Nature, indeed, is almost left to her own resources. A layer of collodion, either simple or medicated, is placed over the lesion, to shield it from the access of the external air; and should it be found necessary, the surrounding parts are kept cold by means of cloths dipped in water. The healing process is soon established, the state of the system being always carefully attended to, for this is of great importance. Indeed, in some instances a little cotton-wool lightly laid on the wound suffices to bring about its cure.

But is not the use of the first-named agent, collodion, another proof of the benefit medicine has derived from science? The chemist discovered that a most remarkable change was effected in ligneous matters by the action of nitric acid on them. Cotton-wool so treated formed a violently explosive compound, hence called gun-cotton; and it was proposed to substitute this for gunpowder, but from the danger that has attended its trials, it is no longer advocated. If this substance be dissolved in ether, to which a little alcohol is added, it forms a viscid and adhesive compound, which, on being applied to a wound, leaves over it a delicate and tenacious covering, or film. For numerous cases, illustrative of its beneficial influence, I must refer you to the pages of the unfortunately discontinued journal of this institution, "The Veterinary Record."

It has been proposed to employ, instead of this, a solution of gutta percha in chloroform, this being found more adhesive, and therefore thought preferable for veterinary purposes. At this institution, however, it has been ascertained that collodion possesses this desirable property in a sufficient degree, and indeed to be all that is necessary.

Having thus referred to some of the strange and objectionable methods adopted for the removal of diseases in the nobler animal, the horse, you may safely come to the con-

clusion, that cattle practice was not simply tinctured with the same want of principle, but thoroughly imbued with it.

I am credibly informed, that near Spilsby, in Lincolnshire, a red herring dipped in tar, is given by one of the old school, as his "cure" for red-water; and he considers it a never-failing one. Near Whitby, in Yorkshire, as a specific for hoven, they administer the white dung of a dog, collected in the month of March, mixing it with an egg-ful of tar; and for what they are pleased to call "Grunting Evil," the animal is directed to be given first a strong purge, then some tar and butter, with 2 ounces of the small quills from under a duck's wing; and this may be repeated if required. In the West of England they have a celebrated drench for the cure of spontaneous diarrhœa. It consists—for a portion of it was sent to me for inspection—of several pounds of the compound powders before spoken of, with the leaves of the Uva Ursi or wortleberry; which are to be given in a pailful of warm milk. The farmers in Buckinghamshire, in 1849, gave to their cattle for pleuro-pneumonia, boiled bacon and cabbage in large quantities with goose-grease!

Gentlemen, is it not time for me to have done with such inconsistencies? Are you not ready to exclaim, can such things really be? Does it not disgust one to think that, in the boasted 19th century, there should be such agents as these still had recourse to? And I doubt not, as I have before said, that most of you can add to the list. Mine, I assure you, has not been exhausted, many formulæ having been withheld from their filthiness, and some from their impiety; indeed, I have had a difficulty in selecting, and done violence to my feelings in entering upon such irrational and contemptible details. But I had an object in view, which, I think, is now fully accomplished, that of showing you, by a bold and striking antithesis, the difference in Therapeuties before and after schools were established for the inculcation of principles; and further, how desirable it is for the well-being of the community, that these should be generally diffused; for, although I have traced many of the foolish practices down to the present day, they are only among those on whom science has not yet shed its enlightening and transforming rays. Let this take place, and all will be well, for it is not possible but that such deeds being brought to her light, must be reproved.

The thereology of the moderns I have been almost contented to let you supply.

It would have been very easy for me to have referred to other, and equally as interesting changes that have taken place in the treatment of diseases, arising from an application

of scientific principles, besides the remedies employed, but that I am desirous of leaving this to those "abler" than myself to do justice to the subject.

I think it will be conceded that we use the lancet far less frequently than we were wont to do; blood being withdrawn only when absolutely necessary, and the effects of its abstraction from the system are always closely watched: thus, we husband nature's powers, having found that it is much easier to take away blood than to replace it; while the periodical performance of the act is never now recommended.

Violent purging, too, is not advocated, unless the disease imperatively demands it, and cathartics are rarely exhibited at stated periods; while we hear nothing of "stirring up the humours, and carrying them off" by three consecutive doses of physic, as was once so common. The rowel has given place to the seton, and less irritating agents are resorted to for blistering. Here I might have alluded to the *Mylabris cichorii* as a substitute for the *Cantharis vesicatoria*, introduced to the notice of the profession by Mr. T. Hurford, of the 15th Dragoons, who kindly furnished me with a quantity of these flies for experiment, he having tried them in India with marked success. In common with others I have ascertained that they are, as he asserts them to be, most active and valuable vesicants.

India is a source whence, perhaps, we might have fairly anticipated a large addition to our Materia Medica, but the harvest has not yet been reaped. Still, some of the first fruits have reached us, and I am indebted to several friends there for specimens of the drugs they occasionally give, either experimentally or otherwise; especially to Mr. Western, Mr. Hagger, and Mr. Aston.

Some of these specimens I place before you, as well as the drugs used by the native horse-doctors of India,—which were left me by my late house-pupil, Mr. Waller, from Madras.

In fever, we cool the place in which the animal is kept by evaporation. Ventilation is strictly enjoined, and the crowding of animals together avoided, as well as long abstinence from food—all of which are fertile sources of disease; it being as much the duty of the veterinary surgeon to prevent diseases as to assist nature in their eradication. This may sound singular in the ears of some that are present; but in after life, when you are called upon to stay the ravages of some enzootic or epizootic, you will find it to be the case.

The various fanciful "shoes" applied for diseases of the feet, which I remember, are now seldom if ever used. Not that the foot of the horse is less obnoxious to disease than it was, but simpler methods have been devised to bring about the

same end. I may be permitted here to direct your attention to the sandal invented by Mr. Percivall. Doubtless an admirable contrivance in place of a lost shoe in the hunting-field or elsewhere, but of equal, or even greater, value as a protector to the foot in the hospital; obviating the necessity of frequently taking off and nailing on the shoe, which, however carefully done, cannot fail to inflict pain.

Skin affections are also better understood than they were, and all are not jumbled together, as once was the case, under two common appellations 'mange and surfeit,' to the disgrace of veterinary nosology.

Again, we lessen the pain attendant on surgical operations by the inhalation of anæsthetic agents, such as ether and chloform. And this allows me to place before you the simplest apparatus I have seen for causing partial insensibility in the lower animals, if any be really needed. It was invented by Mr. R. Bowles, V.S., of Abergavenny, who informs me that in practice he has found it very efficient.

Other substances besides those I have named have been advocated as hypnotics, but some are of doubtful efficacy, and others inadmissable for the animals that come under the professional notice of the veterinary surgeon.

Our surgical operations, too, are more successfully performed arising from a knowledge of anatomy. The brutal practice of "punching" for spavins with an instrument of iron, having many points, made red hot, and a powerful caustic subsequently applied, is now justly reprobated. I remember a practitioner, who entered on his studies here when "in the sere and yellow leaf," the autumn of his life, state, that in cases of contraction of the perforans and perforatus tendons, arising from lesions, he made short work of it, for he inserted his knife underneath close to the bone, and cut right through! On being shown the blood-vessels and other parts he divided, he confessed he should be afraid to do it again.

I am told that it was a practice in Norfolk, when an inversion of the uterus had taken place, and the cow-leech had returned it, for him to pass through the labia pudendi a strip of thin leather, and twisting its ends together, confine them by making an incision inside the thigh, and tying them there. Others have been known to bring them over the tail, *and drive a nail through them.*

So with our surgical instruments. Compare those now used with the rude and torturing tools depicted in the old works on farriery, and then say if an improvement has bee made or not.

Here is the tracheotomy tube of Professor Spooner. Not a hollowed out bit of elder, or a piece of tin tubing, either of which on an emergency may be employed—and such readiness evinces "tact" on the part of the operator; but this is a safer and a truly surgical instrument.

Our lithotomy instruments—never wanted in the dark ages of veterinary medicine, since this operation with its modifications, and others, as neurotomy, periosteotomy, &c., were not then performed—are almost perfect; and the same may be said of those required in cases of difficult parturition, for which we are principally indebted to Professor Simonds.

Mr. Varnell, knowing that an escharotic applied to a dead part could be of no real service, invented those clams, which, acting by pressure only, have superseded the so-called "caustic clams." Nor must his improved balling-iron and frog-seton needle be forgotten.

In dental instruments, Mr. Gowing stands nearly alone, and very ingenious and most effective are some of those which he has devised.

I could go on and bring forward other "means and appliances," but I must refrain, for I am trenching on ground not my own; nevertheless, I consider all these changes as indicative of our onward march; being streams from the same fountain, and they must continue to flow, or we shall soon wither, and cease to be as a profession.

I might likewise have spoken of what has been called the "fashion of physic," and the alterations that have taken place in the practice thereof through it. How we have turned from the use of Galenicals to chemicals, it having in Mons. Sainbel's time cost this institution twice as much for herbs in Covent Garden Market, for poultices and fomentations, as it does now for all the drugs we consume, while the number of patients has quadrupled. How with avidity a new therapeutic agent is tried, and as quickly discarded and denounced as of no value, if so be it does not perform almost impossibilities, or more than realize the expectations of its employer, whereas the probability is the fault rests with him from its mal-application. How deficient we are in correct information as to the actual quantity of the substances necessary to be given, and the changes that are effected in many of them ere they enter the system, and on which their operation so frequently depends; ignorance of which has often led to serious consequences.

Unquestionably we are safer in the administration of repeated small doses of medicinal agents, than we are in larger ones. These latter may constitute a means of trying the powers

of resistance in the organism, but the former are more likely to control and subdue disease.

Further, how very desirable it is that we should know by unmistakeable indications when a medicine has been exhibited sufficiently long; or, in other words, when the system is under its influence, beyond which it may not be prudent to go. With the *peculiar* effects of a few we may be familiar. Thus we know that *digitalis* causes an intermittency of the pulse, and when this is produced we should either withhold it altogether, or give it at longer intervals.

Iodine, and its compounds, induce a soreness of the parts we wish to bring about the removal of, with heat and a throbbing of the arteries thereof; and then, for a time, their use should be discontinued.

When the nervous system is under the control of that powerful excitant to it, *strychnia*, it is known by extreme sensitiveness being shown when the hand is passed along the spine.

Belladonna when it has been given for some time, is followed by a dilatation of the pupilary opening of the eye; and the *potassio-tartrate of antimony* by an easy removal of the hair, or depilation.

There are likewise some other agents whose specific action we have attained to a knowledge of from experiment; but I feel convinced, gentlemen, I have stated quite enough, since it will be evident that in this lecture, as well as in others that have preceded it in former years as introductory to my course, my object has been to show the advantages derived from an application of science to veterinary medicine. I may, and do regret that it is *generally* so lightly esteemed by its practitioners; and, being so little sought after by them, it consequently receives no great encouragement or support. But I do think that some steps have been taken in the right direction of late years. Some of the strongholds of the enemy have been assailed and carried, and by the aid of science new resources have been obtained, so as successfully to combat the many-headed hydra—Disease. And it may be confidently hoped, that as years increase, further accessions will be made, thus perfecting the removal of the stigma which once attached itself to the practice of this profession through the ignorance of empirics. But it is possible that a few may still think these refinements, as they are pleased to consider them, are not called for: that as in olden times practitioners did very well without them, so may we: that a general or routine practice is all that is required, and speculative views as to the nature of diseases, with their rational modes of treatment on

scientific principles, may be safely left to the book-worms of the closet, who practically are of no worth, as they are only theorists.

And what is theory, I would ask, but the exposition of the principles of a science? And to be explained they must be known. He, therefore, who is unacquainted with them, cannot in the strict sense or meaning of the term, be, a sound practitioner, which the correct theorist in the end is sure to be.

And who shall say what is the amount of gratification the educated man enjoys arising from a conviction that he has done what is right, or in consonance with science? And contrast this with the doubts and fears that must ever harrass the mind of the ignorant man in cases of difficulty; whose practice being a mere peradventure, if successful, is only so fortuitously. And especially will this be experienced by him if so be his employer, knowing something of medicine, should happen to interrogate him as to the character of the disease, and the *modus operandi* of the medicines he is about to administer: and many such employers are met with now-a-days.

The simple truth is, the objection originates in a love of idleness, is fatal to all advancement—nay, is a shameful retrogression.

> To bleed, purge, and blister,
> To rowel and to clyster;

would seem to be near all that is considered requisite by some persons. And whence has come your boasted "sound" practice, if such be really possessed by you, but from the careful analization of facts by others, the deduction of principles therefrom, and their subsequent application?

Go back, go back to the days of "tarred herrings" and "decaying slugs;" to the use of "mummy" and "dried toads;" for the value and efficacy of these were as firmly believed in then, as the numerous musty receipts of the NO-school men, as the late Professor Sewell used to designate them, with their traditional statements are by you.

But I am addressing those from whom I anticipate better things. You are about to make your exodus into life, and to you I would say, make asthatic culture your earnest study, remembering "the mind's the stature of the man." Regard not the sarcastic imputation of the idler that you

> "Have eaten of the insane root
> That takes the reason prisoner:"

for however opposed may be the views you entertain to those once held, if founded on a true basis, they must be right.

The mind of man is as much constituted for intelligence, as the eye to receive the stimulus of light, or the ear the impression of sound; and the inspired penman has told us, that "the soul to be without knowledge is not good:" therefore it is I would not have you confine your inquiries to the subjects that may be brought under your notice within these walls only. You are about to become members of a recognised profession, and your intercourse will be with those who move in an equal or a higher sphere. General knowledge is consequently required, so as to enable you to pass through life with credit to yourselves and advantage to others, for this should be the aim and desire of every one. Napoleon said, "the power of science is the science of power." Probably he meant this in a political sense. I will accept it in a higher and nobler one, that of Bacon,—"Knowledge is power." This the ignorant man never attains to, for he is always either servile or presumptuous; or if the accidental possession of wealth precludes the former, he becomes the proud and overbearing despot. Vary, then, your inquiries, for science, in its every division, is making rapid strides around you. Nor think—and here I feel a pleasure in quoting from a veterinary writer—"that general knowledge enfeebles its possessor, or renders him less qualified for discharging the active duties of life. Nothing is more fallacious. There has been some radical defect in the moral or mental training which is the real cause of the evil. Some indolent habit has been allowed to exist unchecked; some favorite propensity has never been curbed; and thus the due balance has not been preserved between the moral and the intellectual powers. There is no kind of knowledge which the hands of the skilful and diligent will not turn to account. Honey exudes from all flowers, the bitter and the sweet, and the bee knows how to extract it."

It is both your privilege and your duty, at this momentous period of your lives, to apply your minds to know and to search out the reason of things. Let not the soul-impoverishing and disheartening thought that "*it is no use to try*," obtain for a moment a place with you. Give it not the least encouragement, but banish it from your mind, and take PERSEVERANCE for your motto. TRUST, and TRY, are but little words, yet they are full of import. Well grounded and long sustained efforts cannot fail in the end to accomplish the wished-for purpose, these being coupled with a humble yet confident dependence on Him, who giveth strength to the weak, and wisdom to those who ask, and asking seek for it.

To conclude. I need not repeat what has been stated, for it must be obvious, that in this address I have been actuated by a desire to excite in the minds of those beginning their studies a love of science. Let it not be said, that by your apathy you have been instrumental in checking its onward progress; and should any of you unfortunately think that it is not necessary for you to become conversant with the principles of that division you have chosen, depend upon it others will quickly come after you entertaining different opinions, and they will soon supplant you in the estimation of a discerning public. It should be an object of earnest solicitude with every member of this profession, to maintain the position given to it next to that of human medicine, for great are the benefits accruing to each from association; and this can only be done by a deliberately formed resolution to cultivate the powers of the mind, a love of scientific investigations, and a gentlemanly deportment.

That you should be both ardent and circumspect in what you are now about to do I need not press upon you. Paley says, "Man is a bundle of habits;" and habits once acquired are not so easily got rid of as our old clothes. And if it be, as philosophers tell us, that no individual can exist without exerting some influence on those around him, how desirable is it that in early life we should acquire those habits which shall issue in the general good of others? "Earth has not anything to show more fair," than a young man sedulously intent on the performance of his duties, and actuated by a determination to excel. It is yours to choose between a life of industry, happiness, and honour, and one of idleness, misery, and degradation. Too many I have seen make shipwreck at the very outset of their career. You will do well to remember that indecision is unproductive, and delays are always dangerous. The present with you is the period of improvement; and "if the spring put forth no blossom, in summer there will be no beauty, and in autumn no fruit: so if youth be trifled away without improvement, manhood will be contemptible, and old age miserable."

The profession chosen by you, if rightly followed, is one that exalts man, and renders him esteemed by the right-thinking and the wise, because it contributes to the relief of the sufferings of those animals which, although placed lower in the scale of creation than man, equally with him constitute a part of the great chain,

> "From which whatever link you strike,
> Tenth or ten-thousandth breaks the chain alike."

I presume your choice has been deliberately made. Considerate reflection has convinced you of its suitability to your faculties, inclinations, and mental powers. You have weighed its advantages and disadvantages, and have not, I trust, been lured by a love of ease, or those prismatic illusions which a vivid imagination too often presents to the mind of youth; but each of you is contented to become a labourer in the field of science, and to co-operate with those who strive to develope its truths, and render them practically useful to mankind. Let nothing, then, cause you to relax in your determinations, nor interfere with your studies; neither indulge in those deviations which too often lead to excess: and may the incentive of the poet to increased and sustained industry be yours:—

"Deeper, deeper will we toil
In the mines of knowledge;
Nature's wealth and learning's spoil
Win from school and college:
Delve we there for richer gems
Than the stars of diadems.

"Onward, onward will we press
In the path of duty;
Virtue is true happiness,
Excellence true beauty:
Minds are of celestial birth,
Make we them a heaven of earth."

To the Editor of 'The Veterinarian.'

Edinburgh, *Oct.* 7, 1854.

Dear Sir.—Mr. Mayhew's letter in your last reminds me forcibly of his wonderful story regarding the heart, which appeared in '*The Veterinarian*' some months ago. Both performances are matchless for reckless assumption, and as showing the wild vagaries committed by a morbid fancy. In your October number he has made statements along with insinuations, and has given interpretations of assumed facts in regard to myself and a Review, which are incorrect and unjust throughout. They are utterly erroneous from end to end, and are grounded on a false supposition that I am editor of a certain paper. I beg once, and for all, to inform Mr. Mayhew, and his veracious informant (if such an one there be beyond his own imagination), that I am *not* Editor of

'*The North British Agriculturist*,' nor have I anything to do with the editorial or other management of that journal.

If Mr. Mayhew's letter applied to actual fact concerning myself, I should be wrong to read and not to profit. "*In putting this and that together*," however, he has dealt so exclusively in fiction, has made such remarkably awkward "*blind thrusts*," and has invested all in a garb of such transparent sentimentality, that I read his remarks with great amusement, but without edification.

I am, Mr. Editor,
Yours most sincerely,
JOHN BARLOW.

ACUTE LAMINITIS, WITH ENTERITIS AND PNEUMONIA.

By MR. BARLOW, Edinburgh Veterinary College.

A black mare, six years old off, standing fifteen hands two inches, strongly made, but showing some breeding, was purchased at St. Sair's fair, in Aberdeenshire, on July 12th, 1854, for the Royal Artillery service. She walked by road to Aberdeen, a distance of thirty miles, and arrived there on the afternoon of the 13th. From thence she was conveyed by railway to Edinburgh on the 14th, and, along with seventeen other horses purchased at the same fair, she came to Leith Fort on Monday the 17th. She was considered sound on the 12th; during the five days which intervened between purchase and delivery at the Fort, she fed well, rested naturally, and appeared perfectly healthy. So she continued over the 17th.

18th. She fed well, took ordinary exercise this morning, and excited no particular notice till 2 o'clock p.m. At this time the off hind leg, but the hock most particularly, was observed to be swollen, unnaturally hot, and painful. The farrier considered this owing to a kick from the neighbouring horse; he applied fomentations during the afternoon. At evening stable-time she was feverish, off her feed, and increasingly lame.

19th. At 6 o'clock this morning she was exceedingly ill, and I was requested to see her. The farrier fancied "*something wrong in the loins*," and had given a dose of nitrous ether and tincture of opium.

I saw her for the first time since she fell amiss, at 10 o'clock

a.m. She presented all the symptoms of acute laminitis affecting all four feet. She was breathing and sighing heavily, quivering from pain, standing with the fore feet far forward and widely separated; the hind feet, less advanced, were apparently placed as far apart as possible. All the feet were unnaturally hot, the fore feet most so. The pulse was 82, and very strong; the respirations were too confused and sighing to be properly counted. The body was covered with profuse perspiration, which trickled down the legs, and dropped freely from underneath the abdomen.

She was bled to the extent of xvj lbs., and had Aloes, ʒiv, in solution. Tinct. Acon. (Flem.) xxvm, was ordered every three hours. Shoes to be removed, and soles freely pared out; if possible she is to be made to lie down. Bran water allowed freely to drink; no food to be offered. Injections ordered.

7 p.m. Relieved in every way since morning. While the shoes were being removed, she leaned gradually more and more weight upon the smith, and eventually went down. She has laid on the left side ever since, and the feet have been constantly enveloped in cold water cloths. Diarrhœa has set in during the day; the liquid fæces contain great quantities of *black oats* and *green wheat*. These are articles of diet which she certainly has not eaten since the time of purchase, now *a week ago*.

25th, 10 a.m. She has continued to lie. During the night she frequently raised her head, looked towards the flank; then extending the head again, she groaned, attempted to rise, but never gained her feet. She is evidently more restless and feverish than last evening. The respiration and pulse are quicker, and there are plain indications of enteritis. The lungs also are probably congested and inflamed, as often occurs in acute cases of this disease; as the mare is down, however, and as the existence of enteritis is certain, the signs of pulmonary disease are not prominent beyond other symptoms. The diarrhœa has ceased, since midnight; injections, I hear, have been used since, and in the now more solid fæces, the black oats and young wheat are still seen. The feet are cooler, but in every other respect the mare is decidedly worse.

Very hot water cloths to be continually applied to accessible surfaces of the chest and abdomen; mustard embrocation to be rubbed in every hour; feet treated as before. She was turned on the right side. Aconite continued; Tincture of Opium, ʒij, Castor oil, ʒvj, every two hours, until three doses have been taken. As she is thirsty, thin meal gruel is allowed to drink. She was visited in the evening by several of the students; they did not report any improvement.

21st, ½ past 9 a.m. The increased abdominal pain greater, feverishness, and other signs of enteritis, are now the prominent symptoms. She does not attempt to rise. Pulse 95, and small. The bowels act occasionally; fæces same as before. During the day she became rapidly worse, and died at 5 p.m., after being apparently unconscious, and kicking involuntarily at intervals with the hind legs for two hours previously.

22d. She was dissected this morning at 11 o'clock. The head was not examined.

Chest.—There was recent but slight pleurisy on the right side; left costal pleura congested, but not perceptibly inflamed. The right lung was extensively inflamed, and all its dependant parts were in the stage of "red hepatization." Left lung congested. Heart and pericardium healthy.

Abdomen.—The stomach contained green food, hay, and bran; it was structurally healthy, and not unnaturally distended. Small intestine healthy. The cæcum was slightly inflamed on its peritoneal and mucous surfaces; its contents were of the usual consistency, about two pails full in quantity, and the more recent articles of diet were mixed with black oats and green wheat in the husk. The colon, and its second coil especially, was inflamed in patches upon the peritoneal surface; the mucous lining was inflamed more extensively. The black oats and wheat were very plentiful in this gut, and increased in quantity towards the sigmoid flexure. The other abdominal organs presented no peculiar or abnormal appearances. There was as much pneumonia as we sometimes find in cases of that disease terminating fatally. The amount of enteritis was less than is usually found when it alone destroys life.

Feet.—On dividing the outer circumference of the sole from its connection with the crust, the latter was found detached from the vascular laminæ throughout the entire inferior margin of the toe, quarters, and commencing portion of the heels. The connection, however, was natural and perfect between the horny bars, sole, and sensitive parts within. The upper margin of the hoof was not detached from the coronary substance. Between the detached horn and vascular laminæ, there lay a stratum of coagulated blood and lymph; it was one fourth of an inch thick at the inferior ends of the toe-laminæ, and gradually thinned away towards the heels and coronet. When this exuded material was removed the laminæ underneath were found still slightly covered and firmly united laterally by a tenacious yellow substance. To the naked eye this had the appearance of strongly coagulated

fibrin, but the microscope and chemical tests showed it to be composed of rudimentary horn. The villi of the coronary substance could be traced by the microscope into the horny tubes of the hoof, and did not exhibit any material increase of vascularity. The synovial membranes and their fringes inside the hoof, and behind the pastern, appeared healthy. Inflammation seemed confined to the laminated structure outside the coffin bone. We have often noticed in dissections made in cases where death occurred early in this disease, through thoracic or abdominal complications, that young horn begins to form as soon as exudation has separated the crust from its natural connexions. In unusually acute laminitis, the coronary margin of the hoof becomes detached also, but in the majority of instances such separation does not occur. In the ordinary run of cases, where separation does occur, I am inclined to think from this and numerous other dissections, that the horny and sensitive laminæ are disunited sooner than is generally supposed. In the above case the feet were cooler and less painful on the 20th, that is, after 24 hours of acute illness. My own idea is, that separation of the hoof had then occurred, because the mare never stood afterwards, and the feet were by no means unnaturally hot from that time. Then, again, the actual formation of new horn upon the sensitive laminæ must have required *some* time, and the only remaining period between this and death was something like 30 hours. We have, at all events, the following facts:—1. The crusts of the hoofs were detached from the internal parts by inflammatory exudation. 2. New horn was formed upon the free margins of the sensitive laminæ, and between their lateral surfaces, so as to unite them firmly. 3. The period within which these processes took place was certainly less than 72 hours.

It is probable that laminitis was not the immediate cause of death, because—

1. There was apparently sufficient pulmonary disease to produce a fatal result; this was accompanied by

2. A considerable amount of enteritis.

3. Laminitis alone rarely destroys life in three days. In cases of laminitis, so severe as to induce sloughing of both fore hoofs, the patient has not died of the disease; and instances have been known where all the *four* hoofs were sloughed, and the horses recovered.

Many cases of laminitis (especially in draught horses), arise from over feeding, from feeding on indigestible food, or from intestinal irritation produced by other causes. A number of horses, for instance, have got out of their grass pasture into

an adjoining field of partially ripe corn, and several have taken the disease almost immediately. We repeatedly see it accompany super-purgation; it is also, as we too well know, an occasional and somewhat untractable associate of thoracic inflammation. It is, of course, impossible to speak with certainty as to its cause in the case just reported, but I am inclined to ascribe it to the indigestion caused by the black oats and green wheat. Indigestion there must have been, or why was this food retained in the digestive organs for the unusual period of 10 days. Such retention of such food, and the performance of a 150 miles' journey, were surely sufficient causes of disease. As to the pneumonia, I may merely remark that it often accompanies, if it does not precede, many cases of laminitis. There are instances in which the diseases coexist from the commencement of apparent illness, and there are other cases where pneumonia seems excited by the pulmonary congestion and disturbance induced by the intense pain and high irritative fever which attend all cases of acute laminitis. Whether, however, the pneumonia be primary or secondary, it has evidently much to do in determining a fatal result. Although the consequences of acute laminitis are sometimes such as to render a horse almost worthless for many weeks, and even months, yet it is a disease which is perhaps mostly treated with complete success if treated early. On this point I have nothing new to offer, as the old fashioned "copious bleeding," and its adjuncts, are very generally successful. The acute symptoms often subside in three days or so, and our patient is quite recovered in another week, without any descent of the sole or other morbid change in the feet. Seeing, as we do, the rapidity of separation between the hoof and sensitive parts within, we can appreciate the importance of early and energetic measures, in preventing what often produces most destructive consequences.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Dogs: *their Management; being a New Plan of Treating the Animal; based upon a consideration of his Natural Temperament.* Illustrated by numerous Woodcuts, depicting the character and position of the Dog when suffering Disease. By Edward Mayhew, M.R.C.V.S., Author of 'The Horse's Mouth, showing the Age by the Teeth.' Editor of 'Blaine's Veterinary Art,' &c., &c. London: Routledge, 1854.

No wonder the dog is the chosen companion of man. He has more claim, he makes more solicitation for man's attention and regard than any other animal: the more sagacious and cunning, but treacherous animal, the ape; the more useful but less sagacious horse not excepted—each of these, indeed, may, in some particulars, lay a higher claim to man's temporary admiration; but, under all circumstances, under prosperity and adversity, kind and unkind treatment, under vicissitudes of temper and passion, what competitor has the dog? which of them can bear his master's frown, nay, even his lash, and yet can at once succumb and smile in his face! Faithful and honest, the suppliant looks up in his master's face for mercy and forgiveness. No wonder, we repeat, the dog has become the chosen companion of man.

And yet, up to now, no one seems to entertain correct notions concerning the origin or parentage of the dog: some fancying the fox was his fore-father, though this is a notion too preposterous to be maintained. Others, with more reason, have named the wolf; though to this hypothesis are irreconcileable objections, one of the chief of which is the anatomical discordancies of the two animals.

Reasoning *en philosophe* on the subject before us, Blaine was the first man who honestly and strenuously devoted his

mind to the study, and his hand to the practice, of canine pathology.

"Before Blaine collected and arranged the knowledge which existed concerning the diseases of the dog, canine pathology, as a separate or distinct branch of veterinary science, hardly existed. The task he accomplished; but if after the lapse of years some of his opinions are found to be unsound, and some of his statements discovered to require correction, these circumstances may be regarded as the natural consequences of progression, while they in no way deteriorate from the honour due to his name. Youatt enlarged and softened the teaching of his master, and by the liberality of his communications, and the gentleness of his example, improved and adorned the science to which he was attached. To others than these two great men I have no obligations to acknowledge. For their memories I take the opportunity of expressing the highest respect, and confess that to their instruction is fairly due any novelty which the present pages may contain; since but for those advantages their teaching afforded, it is more than doubtful if I had perceived the facts herein made known.

Before any mention is made of the diseases of the dog, it will be proper to take some notice of the temperament of the animal, as without regarding this the best selected medicines, or the most assiduous attention, may be of no avail. Any one who will observe the animal will soon be made aware of its excessive irritability. The nervous system in this creature is largely developed, and, exerting an influence over all its actions, gives character to the beast. The brain of the dog is seldom in repose, for even when asleep the twitching of the legs and the suppressed sounds which it emits inform us that it is dreaming. No animal is more actuated by the power of imagination. Who is there that has not seen the dog mistake objects during the dusk of the evening? Delirium usually precedes its death, and nervous excitability is the common accompaniment of most of its disorders. To diseases of a cerebral or spinal character it is more liable than is any other domesticated animal. Its very bark is symbolical of its temperament, and its mode of attack energetically declares the excitability of its nature. The most fearful of all the diseases to which it is exposed (rabies), is essentially of a nervous character, and there are few of its disorders which do not terminate with symptoms indicative of cranial disturbance. This tendency to cerebral affections will, if properly considered, suggest those casual and appropriate acts which the dog in affliction may require, and which it would be impossible for any author fully to describe. Gentleness should at all times be practised; but to be truly gentle the reader must understand it is imperative to be firm. Hesitation, to an irritable being, is, or soon becomes, positive torture."

Some tact and cunning are required in our conduct towards "strange dogs," to gain, if not their affection, still so much of their forbearance as will enable us to make the requisite examination of them, to make out their ailments. Mr. Mayhew's directions in this case are such as denote the experienced practitioner.

"Strange dogs are not easily examined in their own homes, especially if they be favorites and their indulgent owners are present. Like spoiled children, the beasts seem to be aware of all the advantages which the affec-

tions of their master give to their humours. They will assume so much, and play such antics, as renders it impossible to arrive at any just conclusion as to the actual state of their health. Dogs, in fact, are great impostors, and he who has had much to do with them soon learns how cunningly the pampered 'toy' of the drawing-room can 'sham.' For deception, consequently, it is necessary to be prepared, and practice quickly teaches us to distinguish between what is real and that which is assumed. The exertion, however, required to feign disturbs the system, and the struggle which always accompanies the act renders it frequently impossible to make the necessary observation with requisite nicety. Petted dogs are, therefore, best examined away from their homes, and in the absence of any one who has been in the habit of caressing them. Frequently I have found it of no avail to attempt the examination of these creatures at the residences of their owners; but the same animals brought to my surgery have, without a struggle, allowed me to take what liberties I pleased. I usually carry such dogs into a room by myself, and commence by quickly but gently lifting them off their legs and throwing them upon their backs. This appears to take the creatures by surprise, and a little assurance soon allays any fear which the action may have excited. The dog seldom after resists, but permits itself to be freely handled. Should, however, any disposition to bite be exhibited, the hand ought immediately to grasp the throat, nor should the hold be relinquished until the creature is fully convinced of the inutility of its malice, and thoroughly assured that no injury is intended towards it. A few kind words, and the absence of anything approaching to severity, will generally accomplish the latter object in a short period, and confidence being gained, the brute seldom violates the contract."

Farther on, his instructions about handling a refractory or untoward character are excellent.

"The hand, after a little while, should be quietly offered to the dog to smell, and that ceremony being ended, the pulse may be taken, or any other necessary observation made, without dread of danger. Every consideration, however, ought to be given to the condition of the beast. No violence on any account should be indulged; it is better to be ignorant of symptoms than to aggravate the disorder by attempting to ascertain their existence. If the brain should be affected, or the nervous system sympathetically involved, silence is absolutely imperative. No chirping or loud talking ought, under such circumstances, to be allowed, and the animal should not be carried into the light for the purpose of inspecting it. The real condition of the patient, and the extent or nature of its disease, will be best discovered by silently watching the animal for some time, and attentively noting those actions which rarely fail to point out the true seat of the disorder. Consequently manual interference is the less needed, and in numerous instances I have, when the creature has appeared to be particularly sensitive to being handled, trusted to visible indications, and done so with perfect success. The hand certainly can confirm the eye, but the mind, properly directed, can often read sufficient without the aid of a single sense.

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"The dog, in the first place, should be permitted to run about, released from every restraint, or only so far confined as is necessary to prevent his escape from the limits of observation. No attempt should be made to attract the animal's attention, but the practitioner seating himself in one corner, ought to be perfectly still and silent. The way in which the creature

moves; whether it roams about, stands motionless, appears restless or indifferent, avoids the light, seems desirous of companionship, or huddles itself into some place as far as possible removed from inspection; whether it crouches down, curls itself round, sits upon its haunches, turns round and round trying to bite its tail, drags itself along the floor, or lies stretched out either upon its side or belly; in what manner the head is carried, and to what part it is directed; if any particular place is licked, bitten, or scratched; if thirst is great, or the dog by scenting about shows an inclination for food; the nature of the breathing, the expression of the countenance, the appearance of the coat, and the general condition of the body, should all be noted down. When such points have been observed, the animal is addressed by name, and attempts may be made to approach and to caress it; the way in which it responds, submits to, or resents such advances being carefully remarked."

One of the most formidable pests of dog practice is, as is generally known, distemper.

"Of all the diseases to which the dog is subject, this one is the most dreaded. Writers have agreed it is the scourge of the canine race. Blaine and Youatt speak of it as capricious and untractable; the French regard it as incurable. The owners of dogs, despairing of benefit from regular means, have for a long time been content to trust in charms and specifics. Folly and cruelty have been embraced to accomplish that which kindness and science appeared unequal to perform; and one general feeling seems to be entertained with regard to the distemper—most persons being agreed that the disorder is not to be subdued by medicine, and that its fatality is independent of the best efforts of man to check it.

"My experience does not corroborate these various but harmonious accounts and opinions. In my conviction, the disorder is feared only because it is not understood, and is rendered worse by the injudicious attempts to relieve it. I find it tractable, easily mastered, and when submitted to me before the system is exhausted, I am very seldom disappointed by the result of my treatment. It has for some time been my custom to tell those who bring me an animal affected with this complaint, that if my directions are strictly followed, the creature '*shall not die.*' When saying this, I pretend not to have life or death at my command, and the mildest affections will sometimes terminate fatally; but I merely mean to imply, that when proper measures are adopted, distemper is less likely to destroy than the majority of those diseases to which the dog is liable.

"Distemper has been hitherto regarded as an inflammatory disorder, which was to be conquered only by antiphlogistic remedies. Bleeding, purging, vomiting, sedatives, blisters, and setons were employed; and the more acute the attack, the more violent were the means resorted to for the purpose of its conquest. Under such treatment I do not wonder at the evil character which the malady has obtained; for in proportion as the efforts made were great, so would be the probability of the disease proving destructive. There can be no doubt that more dogs have been killed for the distemper than would have died from it if nature had been suffered to take her course; and yet there is no disease that more requires help, or rewards the practitioner more largely for the assistance he affords.

"Everything concerning distemper is by the generality of the public misunderstood. Most people imagine a dog can have the distemper but once in its life; whereas I had a patient that underwent three distinct attacks in one autumn, that of 1849. The majority of persons who profess an intimate

knowledge of the dog will tell you distemper is a disorder peculiar to the young: whereas I know of no age that is exempt from its attaek. I have known dogs, high-bred favorites, to be left with men selected because of their supposed familiarity with dog-diseases; and these very men have brought to me the animals in the fits which are the wind-up of distemper, yet notwithstanding have been ignorant that their charges had any disease whatever. All the stages and symptoms of ordinary distemper may appear and depart unnoticed; but it is widely different with yellow distemper, for when the yellowness appears, it is so marked that no description of a peculiar symptom need be inserted, since it cannot be overlooked or mistaken. It is attended with exeessive debility, and, unless properly combated, is rapidly fatal.

"The brain, both Blaine and Youatt speak of as subject to inflammation during the latter stage of distemper. As diseases are peculiarly liable to change, and the appearances assumed at different times are by no means uniform, I may not say those estimable writers never beheld it in such a state; but I am certain I have never seen it in a similar condition; I have found it congested, but far oftener have I discovered it perfeetly healthy. One of its coverings (the dura mater) has exhibited a few spots of congestion, but these have been small, each not larger than the head of a moderate sized pin, and in number about ten or twelve; generally they are situated towards the anterior of the eranium (on either side or falx), and near to the erista galli."

Concerning treatment, our author takes far simpler views, and, in our opinion, such as hold out better prospects of success than the remedies commonly recommended for the cure of this versatile and fatal disease.

"Medicinal measures are not to be so quickly settled. A eonstant change of the agents employed will be imperative, and the practitioner must be prepared to meet every symptom as it appears. The treatment is almost wholly regulated by the symptoms, and as the last are various, of course the mode of vanquishing them cannot be uniform. To guide us, however, there is the well-known fact, the disease we have to subdue is of a febrile kind, and has a decided tendency to assume a typhoid eharacter; therefore, whatever is done must be of a description not likely to exhaust,—depletion is altogether out of the question. The object we have to keep in view is the support of nature, and the husbanding of those powers which the malady is certain to prey upon: in proportion as this is done, so will be the issue. In the very early stage, purgatives or emetics are admissible. If a dog is brought to me with reddened eyes, but no discharge, and the owner does no more with regard to the animal than complain of dulness, a want of appetite, and a desire to ereep to the warmth, then I give a mild emetic such as is directed, page 32; and this I repeat for three suceessive mornings; on the fourth day administering a gentle purge, as ordered, page 30. The tartar emetic solution and purgative pills I employ for these purposes, in preference to castor oil or ipeeacuanha; and during the same time I prescribe the following pills:—

Ext. belladonna	Six to twenty-four grains.
Nitre	One to four scruples.
Extract of gentian . . .	One to four drachms.
Powdered quassia	A sufficieney.

"Make into twenty-four pills, and give three daily; ehoosing the lowest

amount specified, or the intermediate quantities, according to the size of the animal.

"Often under this treatment the disease will appear to be cut short. With the action of the purgative, or even before it has acted, all the symptoms will disappear, and nothing remains which seems to say any further treatment is required. I never rest here, for experience has taught me that these appearances are deceptive, and the disorder has a disposition to return. Consequently strict injunctions are given as to diet, and a course of tonics is adopted:

Disulphate of quinine	One to four scruples.
Sulphate of iron	One to four scruples.
Extract of gentian	Two to eight drachms.
Powdered quassia	A sufficiency.

"Make into twenty pills; and give three daily.

"At the same time I give the liquor arsenicalis, which I prepare not exactly as is directed to be made by the London pharmacopœia, but after the following method:

"Take any quantity of arsenious acid, and adding to it so much distilled water as will constitute one ounce of the fluid to every four grains of the substance, put the two into a glass vessel. To these put a quantity of carbonate of potash equal to that of the acid, and let the whole boil until the liquid is perfectly clear. The strength is the same as the preparation used in human practice; the only difference is, the colouring and flavouring ingredients are omitted, because they render the medicine distasteful to the dog. The dose for the dog is from one drop to three drops; it may be carried higher, but should not be used in greater strength, when a tonic or febrifuge effect only is desired.

"Of the liquor arsenicalis I take ten or twenty drops, and adding one ounce of distilled water, mingled with a little simple syrup, I order a teaspoonful to be given thrice daily with the pills, or in a little milk, or in any fluid the creature is fond of. The taste being pleasant, the dog does not object to this physic, and it is of all importance that it should be annoyed at this time as little as may be possible.

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"Most generally, however, the dogs brought to us with the distemper have the disease fairly established before we see them. Then I never purge or vomit: the time when such agents could be remedial has passed, and if now used, though they will seem to do some immediate good, the after consequences are always to be regretted. The action of the purgative has scarcely subsided before the distemper assumes a more virulent form, and the probability of the termination is rendered more dark. During the distemper I pay little attention to the bowels; and, however, great may be the costiveness, I never venture to resort even to a laxative, though, should I discover the rectum to be impacted with hard fæces, an enema may be employed. That which I use on these occasions is composed of gruel, to which some sulphuric ether and laudanum have been added.

"The cough, however distressing it may be, I take no notice of. I do nothing for its relief, but persevere in the tonic treatment, and become more strict in my directions concerning diet. The cough is only one of the symptoms attendant on the disorder, and the measures likely to mitigate its severity will aggravate the disease; while, by attacking the disorder, we destroy the cause, and with that the effect also disappears.

"The eyes I treat, or rather refuse to treat, upon the same principle. Whatever may be the appearance they present—even though the animal should be actually blind, the eye of a dull thick white colour on its entire

surface, and the centre of the cornea ulcerated—nevertheless I let them alone, and turn a deaf ear to the entreaties which call on me to relieve so terrible an affliction: I forbid even the discharge to be washed off. Nothing must go near them; but the treatment must be pursued as though we were ignorant that the parts were affected. Any excessive accumulation may be gently picked off with the fingers once a-day; but even this must be performed with the utmost caution, and in most instances had better be let alone. It can only be necessary in dogs that have very long hair, which becomes matted and glued together upon the cheeks; for other animals it is not imperative. If the lids should be stuck together, the fastening substance may be removed; but it should not be too quickly done even then. All water, either warm, tepid, or cold—every kind of lotion, or any sort of salve or powder—will do harm, by either weakening or irritating the organs.

"The treatment of distemper consists in avoiding all and everything which can debilitate; it is, simply, strengthening by medicine aided by good nursing. It is neither mysterious nor complex, but is both clear and simple when once understood. It was ignorance alone which induced men to resort to filth and cruelty for the relief of that which is not difficult to cure. In animals, I am certain, kindness is ninety-nine parts of what passes for wisdom; and, in man, I do not think the proportion is much less, for how often does the mother's love preserve the life which science abandons! To dogs we may be a little experimental; and with these creatures, therefore, there is no objection to trying the effects of those gentler feelings, which the very philosophical sneer at as the indications of weakness. When I am called to see a dog, if there be a lady for its nurse, I am always more certain as to the result; for the medicines I send then seem to have twice the effect."

The other most intractable disease in the dog is probably the one called *mange*.

"Every affection of the skin in the dog is termed mange. This is very wrong; and receipts for the cure of mange are all nonsense, unless we can imagine that one physic is good for various disorders. The dog is very subject to mange; that is, the animal's system can hardly suffer without the derangement flying to and developing itself externally, or upon the skin. True mange is chiefly caught, being mainly dependant upon contagion; but all the other varieties have the seats internally, and are chiefly owing to the keep or lodging. Too close a kennel will give rise to mange; as will too spare or too full a diet; too much flesh or unwholesome food; too hard or too luxurious a bed. In fact, there is hardly a circumstance to which the animal is exposed which will not cause this malady to be developed. Peculiar kinds of bedding, as barley straw, will give rise to it; and particular kinds of diet, as subsisting entirely upon flesh food, will produce it.

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"True mange is dependant, as in the horse, upon an insect; and though not commonly met with, is known by the same symptoms as the similar affection in the more valuable animal.

"The treatment consists in rubbing the body over with some of the various dressings for mange; some of which, however, are compounded for the horse, and do not very well suit the canine race. Care should be taken that the dressing, of whatever nature it may be, reaches and is expended upon the skin, as simply anointing the dog or smearing the salve upon the hair is of no earthly use. The unguent which I have employed, and with such success as emboldens me to recommend it, is composed of—

Ung. resini	As much as you please to take.
Sulph. sub.	A sufficiency to make the resin ointment very thick.
Ol. junip.	Enough to make the unguent of a proper consistency, but not too thin.

This is to be applied one day; washed off the next; and then the dressing repeated until the dog has been dressed three times, and washed thrice; after which the ointment may be discontinued; but again had recourse to if the animal exhibits the slightest signs of uneasiness; when the entire process may be gone through once more. Mercurial ointments are the most certain remedies for this disorder; but then they are not safe, and should always be avoided where the dog is concerned.

"The second kind of mange is where hair partially falls off; and this kind of disorder is well marked by bare patches of small dimensions, showing themselves on the point of the elbow and any part which is prominent, and which the animal might be supposed to have rubbed as he laid in his kennel. The patches are small and free from hair; but at the same time the skin exposed is rough, scaly, thickened, and corrugated. The itching is intense; but it does not particularly affect the exposed part; it rather seems to reside in those portions of the body which are well covered with hair.

"For this form of disease the cure begins with tonic medicine; and after this has been administered a week or a fortnight, as the strength may appear to require restoration, it is suddenly left off; and liquor arsenicalis, in gradually increasing doses, is administered. If it be a little dog, let the first day's dose consist of half-a-drop each time; and if for a large animal, of two drops at each dose; three doses in either case to be given in the course of the day. In the former case, the quantity of arsenicalis is to be increased half-a-drop each day, and in the latter instance one drop daily is to be the advance; the quantity in both cases to be distributed over three doses, one to be given in the morning, one at noon, and the last at night.

"The medicine is to be kept on increasing each day, until the dog loathes his food; has a running from the eyes; a scarlet conjunctiva; or exhibits some symptom that denotes the physic has hold of his system; when the arsenicalis is to be discontinued for three days, and then steadily persevered with, at the dose which preceded the derangement. Thus, supposing it requires three and a half drops to throw the small dog off his appetite, the quantity to resume with will in that case be three drops.

"There is no power I possess which can predicate the quantity of the liquor arsenicalis which an animal will bear; its effects on different creatures of the same species are so various, that what one can gorge with impunity would kill his companion. On this account no fixed quantity of the medicine can be recommended; but the practitioner must be satisfied to watch the symptoms induced, and be content to be guided by these. So soon as the physiological symptom is beheld, the good results of the medicine may be anticipated; and no compound in the pharmacopœia works with greater certainty. The disease will begin to decline; and in a month, six weeks, or two months at furthest, will be thoroughly eradicated. In the course of that period, however, it may be as well to give Nature a jolt every now and then, by occasionally increasing the dose, being always prepared to diminish it on the symptoms giving the slightest hint that it is prudent so to do. The arsenicalis should be used simply diluted with water; and during the period occupied by the cure, no other medicine whatever will be required.

"Here I may for the present conclude my imperfect account of mange; again insisting that in every form of the disorder the food is to consist of

vegetables, and every kind of flesh is to be scrupulously withheld, unless to pups in a very weakly condition.

"Blaine and Youatt speak of alteratives as necessary towards the perfection of a cure; but as I am simply here recording my experience, all I can say is, I have not found them to be required. Cleanliness — the bed being repeatedly changed—free exercise—wholesome, not stimulating food —and fresh water—are essential towards recovery. In no case should the dog suffering under these complaints be allowed to gorge or cram itself; but the victuals must be withdrawn the instant it has swallowed sufficient to support nature."

Canker within and without the Ear.

"Blaine treats of these two as different diseases. Youatt speaks of them as the same disease situated on different parts. As they differ in their origin and in their effects, however closely they may be united, I hold Blaine's arrangement to be the soundest, and therefore to that I shall adhere.

"Thank heaven! there is one good custom prevalent in this disease—dogs affected with it are brought to us early. Often, when the animal is only observed to be constantly shaking and scratching the ear, the proprietors bring the dog for us to remove something from the interior of the organ. At other times, and with the most careless or unobservant masters, the dog is brought under our notice with a blackened discharge within the convolutions of the ear, and a slight smell, like decayed cheese, proceeding from it. A crackling sensation is them imparted to the fingers when the base of the ear below the flap is manipulated; the necessary pressure sometimes drawing forth an expression of pain. A worse case than this I have not encountered; though how common canker has been in my practice may be conjectured from my keeping a two-gallon stock-bottle of the wash in my surgery, and a label for the bottles in which it is sent out, within my drawers. The mode of administering this wash is admirably described by Youatt, from whose pages I transcribe it:

"'Some attention should be paid to the method of applying these lotions. Two persons will be required in order to accomplish the operation. The surgeon must hold the muzzle of the dog with one hand, and have the root of the ear in the hollow of the other, and between the first finger and the thumb. The assistant must then pour the liquid into the ear; half a teaspoonful will usually be sufficient. The surgeon, without quitting the dog, will then close the ear, and mould it gently until the liquid has insinuated itself as deeply as possible into the passages of the ear.'

"The warming of the fluid I find to be unnecessary; and there is something to be added to the above direction, when the wash I advise is employed. After one ear is done, let it be covered closely with the flap, and the other side of the head turned upward without releasing the dog. When both are finished, take a firm hold of the dog, and fling him away to any distance the strength you possess is capable of sending the animal; for the instant the dog is loose, it will begin shaking its head, and, as the canker-wash I employ contains lead, wherever a drop falls a white mark or spot, as the liquid dries, will be left behind."

This is a book certainly much wanted. Blaine and Youatt had done in former times that justice to the subject of which it was susceptible. But later days had cast

fresh lights upon it, and such a man as Mr. Mayhew possessed the talent to discern what had not struck the attention of those before him, and to change lengthy, complex, and crochetty means of treatment into modes more comprehensive and yet simpler, more practical, and more effectual. The work will be useful to general readers, too fond of pursuing lines of practice bordering rather on superstition than on rational modes of procedure: it will also prove valuable to the practical veterinarian, in pointing out to him fresh ways of accomplishing his objects, in a manner more in accordance with nature's own line of procedure than probably may have occurred to his mind before.

Foreign Department.

PRACTICAL CONSIDERATIONS ON THE ADMINISTRATION OF MEDICINES TO DOMESTIC ANIMALS BY THE MOUTH.

By M. Eug. Fischer, V.S. of the First Class.

Through all the surfaces over which the veterinarian can pass the medicines he prescribes, that of the stomach and intestines is the one to which he has most frequent recourse. This, likewise, in domestic animals offers most facility and access for medicine. Its sensibility is active, the sympathies it has with most organs is greater, and medicinal molecules and absorption from it with the greatest facility.

In the introduction of medicinal substances into the stomach, we sometimes meet with great difficulties in the force of resistance animals are capable of opposing. There are horses who will not take medicine at all through the mouth without being cast. Every practitioner is aware how contrary an animal may be when one comes to force him to take a drink, especially a strong bull, or a large hog. Most medicines admit of being exhibited internally, with indifference under the different forms of solid and liquid, without anywise notably altering their effects. Nevertheless, there are some which admit not of employment under this or that form. On which account it is that the practitioner is forcibly compelled to conform to the exigences of science.

However this may be, I have had occasion to see, in re-

lation to the form of exhibiting medicine, vast differences of opinion among the veterinarians whose acquaintance I have had the honour to make. While there are some who never prescribe medicine but in the liquid form; there are others who as constantly employ it in the form of electuary. Again, there are others who prefer for horses the form of ball.

It is not ordinarily a matter of indifference whether we administer medicine under one form or the other. I shall expose the advantages and disadvantages which drinks have on the one hand, and on the other, and that which electuaries, balls, and pills exhibit. I shall not speak of powders, because under this form we ordinarily give medicines which are required to act slowly without manifesting strong action or a disagreeable taste, such as substances which ought, in a measure, to act after the manner of food.

Drenches or Drinks.

Medicines administered in a liquid form act always more quickly than if they had been in a solid one, because they arrive in shorter time in contact with the absorbent vessels which afford them more facility of action. Therefore it becomes requisite, as much as possible, to give only in a liquid form all such medicines as are completely soluble in the recipient employed, at the same time not losing sight of any chemical changes which may supervene. It is always right to filter carefully decoctions, infusions, and macerations, to provide against any false route the potion may take, into the bronchi, occasioning more harm than is conceivable. For this reason we should also avoid administering such powders, as, by the ordinary course, remain only in suspension in any liquid vehicle, and best in some soft form.

Grave inconvenience have of late occurred as the results of administration of drinks to domestic animals. When medicines in the liquid form are not administered with proper caution they may gain admission into the larynx, and from thence into the bronchi. There they occasion irritations and cough, and inflammations of the respiratory passages, often even death, which is ordinarily attributed in these cases wrongly, either to the disease or to the virtue even of the medicine. Already the veterinary professor, Tscheulin, has had occasion to observe that liquid medicines, taken by animals in the form of drinks, are always in danger of not taking the proper course and falling into the bronchi. We must, as much as possible, avoid mixing with drinks powders and greasy substances. Infusions and filtered decoc-

tions, and saline solutions, are generally borne well enough even when they are absorbed in the lungs. Good practitioners set it down as a rule, to never administer medicines in the liquid form in diseases where the respiration is embarrassed.

French records contain several instances of drinks having occasioned death, by going the wrong way; in my own practice, I have had several analogous cases, and more on account of the vulgar custom in my country, of administering to horses drenches through the nostrils. It is true, that in this way the horse is forced to swallow, but it often happens that the drink enters the bronchi before the incautious administrator of it is aware of the circumstance. I cannot refrain here from relating an interesting case, which was near giving rise to an action at law. * * * * * *

M. Peltier, veterinary surgeon, of the district at Wiltry, sent two farmers in the same village a vermifuge drink, containing empyreumatic oil; the following morning each gave the drink to his horse fasting, but the animal of the one fell and died immediately after the administration of the potion.

M. Peltier had forgotten to recommend the drink being administered by the mouth and with precaution. The autopsy disclosed that the animal had been suffocated by the pressure of the vermifuge liquid in the bronchi.

I one day caused the instantaneous death, after the same manner, of a pig affected with constipation, to which I had given a solution of sulphate of soda, mixed with oil of poppy. I painfully call to my recollection four other analogous cases, one in the horse, and three others in horned cattle, by the administration of a drink proving the cause of death.

All authors recommend, where it is desirable to administer a drink to a blown ox, to give him large go downs, in order that the liquid may enter the rumen, by forcing the valve of the œsophagus. I have been in a situation to observe to what extent such practice is dangerous. In fact, in these cases the respiration of the animal is embarrassed, by the compression made by the distended rumen upon the chest, and with that by the abnormal position given to the head in the exhibition of the drink, and often still more by the fingers introduced into the nostrils to elevate the head, all which operate in causing the animal to struggle, and with difficulty respire the air which the drink carries with it into the bronchi. I ought, therefore, to say, I have seen evil arise from the practice of administering drugs through the nostrils. I have great reason to call farmers' attention to the

practice of seizing hold of the tongue at the moment of giving drinks to ruminants.

The administration of medicine in the liquid form to animals constitutes a practice attended with danger; nevertheless, under a variety of circumstances we must put up with it.

There are horses quiet enough in other respects, to whom we cannot succeed in giving drinks but with great difficulty: on such occasions we ordinarily spill a great deal. The employment of the funnel bridle does not obviate this inconvenience. Often, indeed, when we suppose that the animal has swallowed all, from seeing nothing in his mouth, in letting the head down we become astonished at perceiving flowing from his mouth a great part of his potion. It is probably owing to these latter inconveniences that the method of giving drinks by the nostrils has become general in my neighbourhood.

However vicious it may be I have borrowed a hint from this practice. When I administer a drink to a horse who holds it in his mouth instead of swallowing it, I have provoked the act of deglutition by pouring a small quantity of warm water into one of his nostrils, when the drink returns. I am constantly in the practice of this.

In human medicine it has been recommended to throw cold water on the face to provoke deglutition. In man this plan cannot prove necessary, but in cases of syncope, asphyxia, and convulsions. An English surgeon, Mr. Simpson, has remarked that this proceeding invariably succeeds with women seized with epileptic convulsions. He says, that whatever may be the mode of action of this excitation of the skin of the face, whether it act in directly provoking deglutition, or merely in determining an inspiration in which the liquids are sucked into the pharynx, it always happens that the result is beneficial and may be made useful in medical practice.* Recently I have twice tried in the horse to produce deglutition, by dashing cold water on the head, at a time that a part of the drink remained in the mouth, but it has not succeeded.

Cattle—in which we must take care not to elevate the head more than is required for the drink to run down the throat; and that without closing the nostrils—swallow with more facility liquids administered to them, than horses. If in the case of bulls that are buckled, we master them without danger.

* Medical and Chirurgical Journal, vol. xxiii, part ii, Art. 4133.

Electuaries, Balls, Pills.

After what I have said, as a general rule, we should endeavour to administer medicine to horses in a solid form, especially such as is required in sickness, or when the respiration is oppressed. I am in the habit of giving purgatives in the form of pills (or balls) and counter-stimulants and diuretics in the form of electuaries.

In order that medicines in the form of pills act properly, the animals to which they are administered must have a certain degree of digestive power. Sometimes medicines remain a long time within the intestinal canal; ordinarily it does not undergo solution in the stomach; nor do purgatives produce their action until they arrive in the large intestines.* Electuaries act quicker, especially when we employ soluble substances as vehicles; such as honey, syrup, or soap. Balls occupy an intermediate space between these two forms.

Electuaries are readily administered, provided they are formed into a smooth soft paste. Once moulded within the mouth, it loses none of its substance, even supposing the animal tastes it; because domestic animals have no power of *spitting* out. On occasions, I have employed the speculum oris (called in French *pas d'âne*) an instrument for conveyance of medicinal substances within the mouth. The small portable *pas d'âne* of Hertwig is much recommended for this purpose. It is desirable, as far as we can, to follow up the administration of the electuary by inviting the animal to take a drink of cold water.

Electuaries, like pills, are not ordinarily composed of any very irritating substances, unless in a state of great dilution; otherwise, they are apt to occasion inflammation of the fauces. This is what we have to fear with pigs. To cattle we are not in the habit of giving medicine in a solid form, because we suppose that in this form, by forcing the valve of the œsophagus, they enter the rumen.

Pills constitute the form preferred by most veterinarians. The practice of making them pass beyond the isthmus of the throat by means of the hand alone, or the aid of a stick, offers no inconvenience, especially when practitioners give them, as we have seen, stealthily as it were, after having wrapped them in paper. For this reason it is that different instruments have been proposed for the administration of pills (balls) to horses. I remember having seen one of this

* Hertwigs' 'Arzneimittellehre, 1847, p. 63.

kind, which came from England; but it appeared to me much too complicated and expensive.

The elder M. Aman, veterinary surgeon to the king of Wurtemburg, at Stuttgart, told me of an instrument of this kind, a ball-stick (*Pillenstock*) which answers the purpose, from the experience I have had of it. The shaft is a hollow cylinder, and the handle, which is a continuation of the shaft, is the same. Within this cylinder comes an iron rod, which at one extremity terminates in a button; at the other, in an iron disc of the size of the opening mouth. When the button comes to be applied against the handle, the embouchure of the orifice is closed; but when the button is drawn out, the orifice is opened, and is closed by the pill in front. M. Aman finds it convenient never to make use of too hard a ball, lest it should stop within the passage of the œsophagus. The pills he gives approach in size to balls.

M. Ruef, Veterinary Professor of Zootechny to the Agricultural Institution of Hohenheim, has made some modifications in the ball-stick of M. Aman. He has made it shorter, to render it more portable, and has adapted to it a receptacle. The instrument discharges itself by means of a trigger, so that one person can administer the ball with it.

The ball-stick, as modified by M. Ruef, is made at the manufactory of agricultural instruments at Hohenheim, and sold for eight francs. I frequently make use of one, and I am very well satisfied with it.*

* The ball-stick of M. Lebas, known to all veterinarians, gives a very good idea of the instrument we have been describing, save that the ball-stick of MM. Aman and Ruef is much more perfect, since they have substituted repulsive force by a percussive spring from the hand. There are examples in French practice of perforation of the wall of the pharanx, by the extremity of the pill-stick pushed with too great force.—H.B.

Home Department.

EPIDEMOLOGICAL SOCIETY.

At a meeting of this Society held Monday, July 3, 1854, Dr. James Bird, in the Chair, Mr. Tucker read a paper—"On the use of Vegetable and Mineral Acids, in the Treatment, prophylactic and remedial, of Epidemic Disorders of the Bowels."

The author commenced by alluding to the remarkable, but well-established fact, that in 1849 the cider districts of Herefordshire, Somersetshire, and part of Devonshire, were, to a great extent, exempt from the epidemic ravages of cholera, while the disease was raging around. Upon further inquiry it was ascertained that this exemption was confined a good deal to those individuals who drank cider as a common beverage, and that those who partook of malt liquor occasionally suffered. He also remarked that, in some parts of France and in Normandy, more particularly, where cider is the common beverage, cholera is seldom known to exist; and further, that Switzerland was reported to have been free from its visitation.

Having adduced these and other facts in proof of the prophylactic power of cider, the author expressed his opinion that other vegetable acids would be found of service, such as lemon-juice, orange-juice, and sour wines made from grapes, or even from gooseberries. And as it would be found impossible to supply the whole of London with a sufficient quantity of pure cider, Mr. Tucker suggested that *vinegar* might be found a useful substitute in case of another outbreak of cholera, provided that it could be obtained in a state of purity. In confirmation of his view of the sanative and medicinal virtues of vinegar, the author quoted Hippocrates, who (*de natura muliebri*) "employed white vinegar medicinally"—Plutarch and Livy, who refer to the use of vinegar by Hannibal, in his passage over the Alps, when he is said to have "softened the rocks with fire and vinegar," an operation which the author facetiously regarded as rather metaphorical than chemical, as the vinegar, swallowed by the troops, probably sustained their strength, and thus in effect softened the asperities of their rough way. The author also quoted from Roman history the story that "Scipio Africanus is said to have gained a great battle with a few skins of vinegar," the troops refusing to march

until the general had obtained a supply. Cæsar was also reported to mention in his Commentaries the supply of vinegar to the troops; and Mr. Tucker remarked that the drink of the Romans in all their campaigns was vinegar and water, and, sustained by that beverage, they conquered the world. Modern authors, (Sir John Pringle, Sir Gilbert Blane, and others) were also quoted in proof of the antiseptic and medicinal qualities of vinegar. The author then proceeded to show that acid drinks were not only preventive, but remedial in epidemic disorders of the bowels. Cases were related, in which not only persons were exempt from attacks of cholera raging around them, who drank large draughts of cider, but a case of severe cholera was also related, which yielded to the diluted juice of sour apples. The efficacy of the *Mineral Acids*, especially the sulphuric, in diarrhœa, and especially in choleraic diarrhœa, was also advocated by reference to numerous facts and authorities. He also referred to some established facts connected with the spread of epidemic dysentery in the army, showing the efficacy of vegetable acids in that disease.

In conclusion, Mr. Tucker suggested a necessary caution relative to the use of the wretched and unwholesome substitute for vinegar commonly sold in the London shops.

The discussion which followed the reading of the paper, elicited many facts in confirmation of the author's views; and, as to the efficacy of sulphuric acid largely diluted with water, in choleraic diarrhœa, there was not a dissentient voice.—From the *Lancet*.

ON THE IMMEDIATE PRINCIPLES OF THE EXCREMENTS OF MAN AND ANIMALS IN THE HEALTHY CONDITION.

From the 'Medical Times and Gazette,' Sept. 30.

The following is an abstract of a most interesting paper, by Dr. Marcet, which has been read before the Royal Society:

"The author describes a new method of extracting the immediate chemical constituents of the excrements of man and animals, and gives an account of the substances obtained by its employment. Healthy human fæces are boiled to exhaustion in alcohol. The residue is insoluble in ether, and yields to boiling water nothing but ammoniaco-magnesian phosphate. The strained alcoholic solution deposits, on standing, a sediment, from which it is decanted, and then

mixed with milk of lime. The subsiding lime is of a yellow brown colour; it is dried on filtering paper, and treated with ether, cold or hot; and the solution thus obtained, yields, on spontaneous evaporation, beautiful silky crystals, which are purified by solution in a mixture of alcohol and ether, repeated filtration through animal charcoal, and re-crystallization; they then appear in circular groups, have the form of acicular four-sided prisms, and polarize light very readily. This crystalline body the author proposes to call Excretine. It is very soluble in ether, cold or hot, but sparingly soluble in cold alcohol; its solution has a decided though weak alkaline re-action. It is insoluble in hot or cold water, and is not decomposed by dilute mineral acids. It fuses between 95° and 96° C., and at a higher temperature burns away without inorganic residue. When boiled with solution of potash, it does not dissolve. As to its qualitative constitution, it is found to contain nitrogen and sulphur, though in small proportions; the products of its decomposition have not yet been investigated.

"The author has, in several cases, observed the excretine to crystallize directly in the alcoholic solution of fæces before the addition of lime, and has scarcely any doubt that it exists, for the most part, in a free state in the excrements, and constitutes one of their immediate principles. As to its source, he observes that it appeared in excess when a considerable quantity of beef had been taken, and in less than the usual quantity in a case of diarrhœa attended with loss of appetite; but none could be directly obtained from beef on subjecting it to the same process of extraction as fæces. Neither could it be found in ox-bile, the urine, or the substance of the spleen. From the difficulty of obtaining the contents of the human small intestine in a healthy state, its presence or absence in that part of the alimentary canal has not yet been satisfactorily determined. The lime-precipitate, after having been thus thoroughly deprived of the excretine by ether, is next treated with hydrochloric acid, and water or alcohol, by which means margaric acid is extracted from it. The author is uncertain whether the margaric acid of the fæces is free or combined with excretine; but he is disposed to conclude that the neutral fats are decomposed in the intestinal canal, and their acid set free. Not having been able to detect stearic acid in human evacuations, he supposes that what is contained in the fat of mutton or beef taken as food must be converted into margaric acid in its passage through the alimentary canal. The lime precipitate, freed from excretine, and dissolved in alcohol by means of hydrochloric acid, forms a dark,

port-wine-coloured solution, from which the margaric acid is deposited. On then adding water to the solution, and concentrating it on the water-bath, a flaky-colouring matter separates, which, being purified by solution in ether, and washing with water, is obtained as a dark brown or black amorphous substance, similar to the colouring matter of blood, and to that which Dr. Harley has lately extracted, from urine. The matters brought down with the lime having been thus extracted, the sediment which spontaneously subsides from the alcoholic solution of fæces before its treatment with the milk of lime is next examined. This deposit appears to be complex in its nature; it has a strongly acid reaction, and presents under the microscope small oily globules, mixed sometimes with crystals of excretine, and accompanied by a yellow amorphous matter. By boiling with alcohol and filtration, a residue remains, which the author has not yet examined, and two substances are obtained from the filtrate. The first is deposited on cooling; when collected and dried on filtering paper it has a granular character, and is quite colourless; it is very sparingly soluble in ether, fuses by heat, and burns with a bright fuliginous flame, leaving a white residue, consisting of phosphate of potash. The author has not yet been able satisfactorily to decide whether this is a pure immediate principle or not; he is inclined to consider it as a combination of phosphate of potash and a pure organic substance. The filtered fluid, after separation of this matter, still contains a substance, which he has called excretoic acid. It is obtained by evaporating to dryness, extracting the residue with ether, adding to the ethereal solution alcohol and lime-water, and heating. The acid is precipitated in combination with lime, from which it is separated by means of sulphuric or hydrochloric acid and solution in ether. The ethereal solution, after being well washed with water to remove mineral acid, yields the pure excretoic acid on evaporation. This body is of an olive colour; it fuses between 25° and 26° C., and at a higher temperature burns without residue. It is insoluble in water and in a boiling solution of potash; very soluble in ether; sparingly soluble in cold alcohol, readily so in hot; its solutions having a marked acid reaction. The author is disposed to believe that in excrement it is combined in form of a salt, with excretine or a basic substance closely allied to it, which is obtained in the filtrate from which the excretoic acid is precipitated in combination with lime in the process of its purification. The author failed to obtain evidence of

the presence either of butyric or of lactic acid in the clear alcoholic solution of fæces filtered from the precipitate formed by the milk of lime. From the above investigation, therefore, it appears that healthy human excrements contain:

"1. A new organic substance, possessing an alkaline reaction, which the author names excretine.

"2. A fatty acid, having the properties of margaric acid, but not constantly present.

"3. A colouring matter, similar to that of blood and urine.

"4. A light granular substance, whose properties have not yet been sufficiently examined to admit of its being considered a pure substance.

"5. An acid olive-coloured substance, of a fatty nature, named excretoic acid.

"6. No butyric acid and no lactic acid.

"The fæces of various animals were submitted to the same process of analysis, with the following results:

"1. The excrements of carnivorous mammalia, viz., the tiger, leopard, and dog (fed on meat), contain a substance allied in its nature to excretine, but not identical with it. They contain no excretine; they yield butyric acid, which is not present in human excrements.

"2. The excrements of the crocodile contain cholesterine and no uric acid; while those of the boa yield uric acid and no cholesterine.

"3. The fæces of herbivorous animals, viz., the horse, sheep, dog (fed on bread), wild boar, elephant, deer, and monkey, contain no excretine, no butyric acid, and no cholesterine."

THE VETERINARIAN, NOVEMBER 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

On Tuesday, the 16th instant, Professor Morton delivered to a crowded auditory his "Introductory Lecture." It was a kindly and instructive address, opening the session of 1854-55—one well calculated to win the affections of the young, while it elicited the applause of the elders present, as well by the applicability of the observations made, as by the pleasing manner in which they were delivered from the chair. An Introductory Lecture is not an inapt appellation, since,

besides introducing the science about to be taught, it introduces both pupils to their teacher, and teacher to his pupils. It is a sort of first acquaintance between them. It enables either party to form some sort of opinion or estimate of the other. The teacher takes a *coup d'œil* of his new class; the pupil scans, as far as he can, the character of his teacher. Each party probably comes, in his own mind, to conclusions which are as likely to prove erroneous as correct.

Mr. Morton commenced by showing the necessity of his younger hearers forming in their minds correct principles. Our conditions in life may undergo various vicissitudes; but facts constituting truth ever remain the same. "Once a fact, always a fact."

The studies in which the pupil is to be engaged, "embrace the anatomy, physiology, and pathology of the horse, ox, sheep, pig, and dog, *i. e.*, and of domesticated animals generally." Varied and manifold are the inquiries these subjects, special though they be, lead us into; while, on the one hand, they engage us in anatomy, physiology, chemistry, botany, &c.; on the other, they call our attention to the principles and practice of shoeing, and the laws of veterinary jurisprudence. But, observes the intelligent lecturer, such a course of attendance only prepares the mind to receive impressions, and they but too frequently prove evanescent. It is by reflection on what he has heard, that the pupil can familiarisehim self with the truths enunciated, so as permanently and indelibly to stamp them upon the tablet of his memory. "The utmost the lecturer can do, is to give the pupil little more than an outline of his subject, graphic and correct though it may and should be;" this outline must be filled up by the pupil himself "*by subsequent study.*"

Theory must be verified by practice. The pupil will have ample opportunity of putting his practical "tact" to the test by a close and regular attendance upon the stables and the forge.

To become an able anatomist, he must work for himself in the dissecting-room. By this, and this alone, can he thoroughly learn anatomy. Anatomy, the foundation of medical science, the ground-work of physiology; the two

sciences combined being the garden in which alone pathology can flourish to advantage.

By building upon a solid foundation like this, and continually working upon it, it is, that, treading close upon the heels of human medicine, veterinarians have been enabled, in a comparatively short time, to raise their science to a pitch, of which, at the present day, they have just reason to be proud. Surgeons do not disdain to hold converse with us on the advance of our science, and to confess upon what superior ground we stand, compared with the station of the old farrier, now rapidly falling into oblivion. Not to mention the absurdities of charms and amulets, of which their forefathers were so fond, and they themselves have hardly thrown off the *incubus;* nay, which, even in this age of enlightenment, are still to be found haunting the descendants of Vulcan; even at the present day does the alarum of absurdity occasionally utter its din in our ears, confounding and disgusting us with a discordance which has long been dispelled from the regions of science, and ought by this to have irretrievably sunk deep into the abyss of oblivion. The modern bird of paradise—science—is evidently every day extending her spreading wings more and more over the human race, every chink and corner is gradually becoming redeemed from darkness to enlightenment; the rude and coarse vesture of our ancestors is becoming exchanged for one of cultivation and refinement. We are all hurrying on the road leading to the millennium of improvement, though none of us can yet see far enough into the future to divine when, or at what point of perfection, the goal may be attained.

Those of our profession who are old enough to remember St. Bel, and are able to cast back a look to the time of Coleman, can visibly enough discern steps of improvement in our art. The veterinary surgeon created by the former, reared and trained on the road of professional life by the latter, now does credit to himself and benefit to society, and, on occasions, heaps reputation and honours at which members of the sister science can hardly refrain from harbouring invidious feelings. Why, in ages to come, may not the veterinary profession generate a Harvey or a John Hunter!

Who can set limits to onward progress—who can curb the Pegasus of science?

Mr. Morton notices, as instances of improvement, the diminished employment of venesection in our treatment of disease; the substitute of the mylabris for the cantharis as a vesicatory; the advantages of the sandal, &c. &c.

Professor Morton concludes his admirable—we may say friendly address to his young class, with the following well selected observations, to be retained and treasured up in minds—sanguine and ardent of success in their professional career:

"The profession chosen by you, if rightly followed, is one that exalts man, and renders him esteemed by the right-thinking and the wise, because it contributes to the relief of the sufferings of those animals which, although placed lower in the scale of creation than man, equally with him constitute a part of the great chain, from which

> "'whatever link you strike,
> Tenth or ten-thousandth breaks the chain alike.'

"I presume your choice has been deliberately made. Considerate reflection has convinced you of its suitability to your faculties, inclinations, and mental powers. You have weighed its advantages and disadvantages, and have not, I trust, been lured by a love of ease, or those prismatic illusions which a vivid imagination too often presents to the mind of youth; but each of you is contented to become a labourer in the field of science, and to co-operate with those who strive to develope its truths, and render them practically useful to mankind. Let nothing, then, cause you to relax in your determinations, nor interfere with your studies; neither indulge in those deviations which too often lead to excess: but may the incentive of the poet to increased and sustained industry be yours:—

> "'Deeper, deeper will we toil
> In the mines of knowledge;
> Nature's wealth and learning's spoil
> Win from school and college:
> Delve we there for richer gems
> Than the stars of diadems.
>
> "'Onward, onward will we press
> In the path of duty;
> Virtue is true happiness,
> Excellence true beauty:
> Minds are of celestial birth,
> Make we them a heaven of earth.'"

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ON CASTRATION OF CAVALRY HORSES.

By J. T. Hodgson.

A pamphlet was put into my hand in 1816, "On Castration of Cavalry Horses," by Lieut. W. Dickson, 6th B. N. C. (assistant to the late Mr. Moorcroft), who, being promoted to a majority, could no longer hold the situation, and, after the latter gentleman's death, those above the rank of major could not be a superintendent. It is difficult to understand what conventional notions of rank had to do with the successful breeding and rearing of horses, camels, and bullocks; seeing that from the Prince to the tenant-farmer, we here compete with each other for prizes at agricultural cattle shows. That scientific farmer, Mr. Mechi, whose town house of business is in *Leadenhall Street*, said, "his balance sheet last year showed a gain of £600 on the cattle account." What a pity we do not see his near neighbours in the same street, among other great personages, taking a few hints at a Tiptree Hall gathering. Then we might not see such a balance sheet of the stud-farms in India as that exhibited in your journal for September last, p. 500, by Mr. V. Nelson, V.S., with whom I agree, that the qualifications* of individuals

* Breeder, dealer, trainer, jockey, stud-groom, farrier, often supersede the veterinary surgeon, who is called in when they cannot do any longer without. Instances of this we have lately had. When Mr. J. Scott's character was in the balance, Mr. Mavor, V.S., was trundled down to Yorkshire by rail, to look at Acrobat's leg, and glad, no doubt, was Mr. Scott to see Mr. Mavor, and hear him decide "that the fibres of the suspensory ligament had been injured." When Shertz's age was disputed, Mr. Barrow, V.S., was called in, who "declared his mouth all right." Prizes too have been given to veterinary surgeons by Agricultural Societies for essays on various subjects. The qualifications of a dealer have superseded the comprehensive knowledge necessary in the individual to be Principal Veterinary Surgeon to the Army, yet the "very important duty in Turkey" is only a part of

employed in any undertaking is an essential element of success. At the time, I gave Lieut. (alias *Major*) W. Dickson full credit for the proposition "that geldings were less expensive to rear than entire colts." Who did not know this? But the opposition of his brother-officers was decisive against the measure, and stud-colts remained entire. Wherever I travelled I was asked my opinion of Billy Dickson's or Italian's. I replied, allow me a little experience in the country; at present I can only state it is of utility in Europe, a civilised country, and the supposed difference—geldings being allowed 3 lb. avoirdupois in a race.

The circumstances under which geldings must be used in the East during war are widely different, being more or less exposed to the climate, heat, cold, and rain, privation of food, and unavoidable neglect of grooming.

The use of entire horses is, besides, expensive, as precluding the use of mares in regular cavalry corps. Mares were tried in the 6th N. C., and rendered the horses unsteady in the ranks; yet mares are used in irregular cavalry corps. But there is a great difference between regular cavalry horses, fully fed and doing little work, and irregular cavalry horses, less fed and doing all the fatigue duties. The temperament of the former is pampered, the latter is kept down. The former, if he breaks loose, is more difficult to catch than the latter, and is obliged to be surrounded by men with long ropes. The Cossacks' horses, like grasscutters' ponies, are turned loose, though entire, and will come to their owner's whistle. The Indian cavalry horse not unfrequently becomes so vicious as to render castration necessary, for the safety of riders and others' horses—these are rather exceptions. Entire horses for war have always been preferred by Asiatics, the use of mares being by them a politico-economic measure, as breeders of horses to mount themselves and sons as soldiers, other use not being there made of horses. The late Marquis of Hastings, when Governor-General, said, "our Empire in

veterinary knowledge, to which all the practical acquirements of breeder, trainer, jockey, stud-groom, farrier, are subordinates, when from necessity they are brought into (as Capt. Apperley termed it) "antagonism," which should never exist. Mr. H. Wood, civil auditor, member of the Stud Board, on deputation in 1818, inspecting the stud at Hissar, wrote to the board, "I intimated to Mr. Hodgson, that his duties were to assist the superintendent in any manner he might deem his professional knowledge of advantage to the Government." The stud officer could not then ignore the duties of veterinary surgeons, either by "antagonism" or by supercession. The freedom of thought and tender of professional advice is immediately checked by either, to the detriment of the stud; and the result is shown in the reports by cavalry officers and veterinary surgeons, of deteriorated horses.

the East is one of opinion." The knowledge by the natives of our superior intelligence is backed by our powerful energy in carrying out whatever we undertake; and how far it may be prudent, for economical reasons, in rearing horses, to castrate our cavalry horses, while our own irregular cavalry horses, and those of our enemies in countries beyond our north-west frontier, use entire horses, I leave others to determine; I am only drawing attention to the present opportunities of testing, in Turkey and the Crimea, the relative powers of geldings and entire horses during severe service, exposed as they are to heat, cold, rain, and privation of food and grooming; for there the dragoons have not the aid of native grooms, neither is there those useful Indian camp-followers, grasscutters and their ponies.

I read in your journal of great numbers of horses being castrated of late years; the natives, therefore, must think us rum'uns on this subject. I recollect the complaints of cavalry officers were, "that geldings were timid, unable to bear privation and exposure to the climate, and after a march would return into camp like post-horses that had gone a stage; that geldings required the same rest, careful grooming, and high feeding, to enable them to go again the next day, which could not be obtained for cavalry horses on service; that entire horses, as well known to Indian sportsmen, were not timid, but would charge anything—lion, tiger, and wild hog; that the customs of Asia should overrule our preconceived notions of the convenience of geldings." On the other side, it was contended "that to keep entire horses steady, corps had to be overworked." I cannot write this happened within my experience; on the contrary, corps were under-exercised. As to casting, the average, if I recollect right, was about ten per cent., averaging the whole service, and in no other were there so many aged horses, not stale upon the legs and feet.

The quietness of entire horses depends much on habit; we see this in Arabs and stud-bred colts, when compared to country horses, brought up entirely by natives, whose mode of rearing and feeding oftener renders colts vicious at an early age; on the contrary, entire stud-colts stand close to each other, without any separation by bails, with a hempen head-stall, to which is attached a piece of bamboo instead of halter, having a loop at the other end, which slides up and down a long pole fixed in the ground. Morning and evening, except in the rains, these entire colts are at liberty in a large paddock, till in the third year put into condition to be shown to a committee for admission into the service; and the difference of temperament of the former, ridden before a committee by

the dealer's rough rider; and the latter, led before it by the native stud-groom, was too obvious to all who witnessed it, to need any comment from me. I am, however, obliged to allude to it; as I can to a fine team, in high condition, quite quiet, though entire, that I have seen, almost daily, for several years, in the village where I am writing; and it is the same with some on the Continent, where entire horses are more frequent than in England. Indian cavalry horses are tied up by two head-ropes, their position being secured by the hind pasterns having leather hobbles, to the end of each of which are ropes several feet long. These ropes are fastened to tent-pegs driven obliquely into the ground (this method was tried at Chobham). Whether in camp or in the open Indian stables, one horse occupies double the space of an entire stud-colt, or that would be required by a gelding. In a hot climate, however, this is advantageous, as the horses are thus less liable to disease; therefore, so far as economy of stable room, gelding is not an advantage there.

It does not require an officer or veterinary surgeon* to have been in India (and many have been), to judge whether the geldings taken from England or the small entire horses purchased by the horse-agent† of the Commissariat, Mr. Wilkinson, are best able to bear the privations and fatigue we read of in the newspapers. "In Lord Cardigan's exploration into the country 17 horses were knocked up;"—"24 died, or were obliged to be destroyed from fatigue in drawing the field train from Balaclava."

Whatever impairs the powers of cavalry horses to undergo privation and fatigue, *a priori* makes them less efficient; castration, under these circumstances, must be considered to do so, by depriving horses of that spirit which entire horses always retain, though diminished by privation and fatigue. The correspondent of the *Illustrated London News* remarked on the difference between Lord Raglan's "steady old English hunter, and General Canrobert's Arabian;" also Omar Pacha's.

The comparative value of unclipped geldings,—the advan-

* We must look forward with hope to the safe return of your old correspondent Mr. Gloag, and others, for interesting details of observations of horses in service.

† The Commissariat had Messrs. Mansfield and Price, V.S., in the department, in 1814, which is under the Treasury, and not the Commander-in-Chief, who could grant no extra allowance to Mr. Wilkinson, and had Mr. Cherry's death not opportunely happened, how was he to be reimbursed for extra expenses of travelling, but by the Commissariat. He could not be expected to travel above 40 miles per day on his own horses, and get only 6*d.* per mile.

tage of clipping is scarcely available on service, as with stabled geldings—and entire horses, on the steppes of the Crimea—is likely to be very severely tested. It has now become a question for decision in Europe as well as Asia; therefore, I trust your readers will pardon the length of these observations.

The late Professor Coleman said, many years back, that "the best mode of castration is that ordinarily practised by the castrator; for even if the caustic clams were better, they would not cut off the testicles and remove the clams next day, or pay your journey to do it." As to the relative degrees of suffering from different modes of operation, there is, no doubt, least in that practised in human surgery—but this patient remains quiet; a horse will not do so, and the difference in the force of circulation is apt to cause after-hemorrhage. There is, no doubt, great pain for some time after compression of the clams, yet I preferred it in India to the castrator's method, in which there was more constitutional disturbance, and tendency to tetanus. Though not usual, I castrated numbers of young camels by *scraping* the cord, and in this way calves are castrated at Nagore, where they breed high, light, five-hand cattle for rich natives' carriages; however, the ordinary method of castrating oxen is, to put the cord between two smooth stones, then (half a dozen thumps) a few blows on the testicle cord and string from either is effectual, without opening the scrotum by heat, &c. Of the many hundreds served in this manner, during five years I was at Hissar, I never heard of an unfortunate case; yet of its cruelty I have no doubt, from the pain I once experienced from a very slight blow on the testicle from a horse, that I can fancy Major Tapp's method to be equally so, besides being continued. Mr. Hallen only acted as the late Mr. Youatt very properly expected every veterinarian to do, and spare, if he could, the unnecessary sufferings of animals. The use of chloroform has, however, relieved us from the chance of this stigma. Had I been a captain or major of cavalry I would have chosen a more chivalrous path than that of those who have of late figured in your journal; but—

"To such base uses may we come at last."

P.S.—I beg leave to inform Mr. Dawes that mylabres are procurable only for a short period during the rains, when those who collect other produce of the country will, no doubt, do the same with this, now he has mentioned the market price; if some of our professional brethren mention it to up-country merchants. Had I known it was desirable, I could

have sent over some with other articles; but the freight of mylabris alone would be expensive; it can only be done by merchants exporting other drugs.

DEATH FROM RUPTURE OF A MELANOTIC TUMOUR.

By J. Broad, M.R.C.V.S., Market Street, Paddington.

Dear Sir,—On the 2d of September last I was requested, in haste, to attend a grey mare at Sudbury, belonging to J. S——, Esq., of Westbourne Grove.

I arrived at half-past four o'clock P.M. She was then comfortable and feeding. She had been taken about two and a half hours before my arrival, with symptoms which led those in attendance upon her to believe she was suffering from gripes, for which a simple remedy was administered. The attack lasted about half an hour; during that period the most prominent symptom exhibited was that of her violently forcing her head against the corner of her box, and in that situation she would remain for some time.

The violence with which she had repeatedly brought her head in contact with the wall had most distinctly left its effects upon various parts of the head. An examination showed the pulse to be steady, and possessing a tolerably good tone, with the membranes of a healthy hue: consequently I could not suspect internal hemorrhage. I entertained an opinion that the case was the result of cerebral derangement.

I advised her removal to town, which was at once acceded to.

She walked the distance (8 miles) freely, and with apparent ease, and appeared not to have suffered from her journey; she was at once placed in a loose box, and in the course of five minutes she directed her head towards one corner of it, retaining it in that position for a short period; then fell, and died almost instantly.

Post-mortem.—Opening the abdomen was immediately followed by a copious flow of very dark-coloured blood, mixed with black clots of melanosis. After removing the intestines, stomach, &c., a large melanotic tumour of a very irregular shape presented itself, situated across the lumbar region, closely attached to, and nearly concealing, the kidneys. Judging from the appearance of the mass, I should think its

weight was at least from ten to twelve pounds. The rupture extended through its centre.

There was no appearance of the disease in the liver or spleen. There were a few small tubercles—the largest not exceeding the size of a horse-bean—upon the lower surface of the tail.

Yours truly, &c.

CASES OF TETANUS AND INTUS-SUSCEPTION.

By Thos. Hurford, V.S., 12th Lancers.

My dear Percivall,—If the accompanying are worth insertion, they are at your service for the *Veterinarian;* they present nothing new, but perhaps you may not think them altogether uninteresting.

IDIOPATHIC TETANUS.

A bay pony, the property of Major Monro, aged, had been ridden two days before, and shied against a carriage, but no wound, and no appearance of soreness.

Sept. 12.—Reported to be stiff, and off his feed. I found him quite tetanic; back and loins as hard as board; jaws set; tail extended, &c. V. S. lb. xii.

℞ Aloës, ʒv;
Ext. Belladonnæ, ʒj;
Calomel., ʒj;
Aquæ, ℥viij.

The jaws being too much closed to give a ball.

13th, A.M.—Repeat the drink. Five P.M.—Repeat the drink.

14th.—No action.

℞ Aloës, ʒiij;
Crotonis Farinæ, gr. x;
Calomel., ʒj;
Aquæ, ℥viij.

15th, A.M.—Bowels still torpid; no relaxation of symptoms.

℞ Aloës, ʒiij;
Crotonis, gr. xx;
Calomel. et
Ext. Belladonnæ, āā ʒj;
Aquæ, ℥viij.

16th.—A copious evacuation this morning, and thinking

it would continue, I did not prescribe any purging medicine, merely—

℞ Ext. Belladonnæ, ʒj;
Aquæ, ℥iv.

However, there was no more purging, so—

17th.—

℞ Crotonis Far., gr. xv;
Aloës, ʒij;
Ext. Belladonnæ, ʒj;
Aquæ, ℥viij.

18th.—No motion; repeat drink; the spasms are not so violent.

19th.—No purging; repeat draught; P.M., though not purged, he is decidedly better.

20th.—Doing well; fæces natural; P.M., very much better.

21st.—I now consider him out of danger. He is a good deal tucked up, but hearty. He was throughout a good patient, and took his drinks kindly.

INTUS-SUSCEPTION.

B. 29, a fine bay horse, Persian, admitted about half-past five P.M. of 21st of September, said to be griped; but after his arrival he appeared perfectly well, no pain apparent; detain him for the night. About ten P.M., I was called, the horse was very ill; *standing;* blowing; extremities cold; pulse weak; I could not understand it, but I ordered a blister to his sides, and—

℞ Calomel., ʒj;
Ext. Belladonnæ, ʒij;
Aloës, ʒv.

About three A.M., 22d, I was again called; he had just fallen, and in ten minutes was dead. I. C. at daylight—the cavity of abdomen full of bloody fluid, and intus-susception of intestine in *two* places; the mesentery black.

Is it not curious that this horse should have stood till the last; no expression (violent) of pain, no pawing, &c.?

Very sincerely yours.

CASES OF SUPPOSED POISONING IN COWS.

By Mr. Dorrofield, M.R.C.V.S., Rickmansworth.

On Sunday morning, Oct. 29, I was requested by a farmer in the neighbourhood to come to his place to look at some

cows. On my arrival, I found, one had died, another was very ill, and a third shut up in the cow-house for my inspection. After hearing a description of the animal that had died, and examining the parts saved, I came to the conclusion that they had been poisoned by some means. I will now describe the symptoms presented in these animals.

Case 1.—One o'clock, P.M.—The cow is down; frequent convulsions seize her; pulse 86; great irritation exists in the hind extremities, and parts surrounding the vagina and anal opening, (the animal frequently getting up and rubbing herself violently against the stone wall.) The rectum and vagina are inverted to a slight extent; strains violently; refuses both food and water. She has been bled, and an aperient given. A bold aperient is now administered, combining with it Ext. Belladon. ʒij. A mild stimulant applied to the loins, and a Sol. Tinct. Opii applied to the parts inverted, as I could not keep them retained on account of the animal continually straining. This cow was taken ill yesterday morning; the irritation in the rectum existed to such an extent that enemas could not be used.

Five, P.M.—The animal has got up and walked about. Convulsions increase, other symptoms about the same.

30th, six o'clock.—The patient is now in a hopeless condition; she cannot stand; wiry pulse beating 112; violent convulsions seize the whole body; the irritation still exists in the hind parts; she is frequently straining, and there is no indication of action being set up in the bowels.

℞ Ext. Belladonnæ, ʒj;
Antim. Tart., ʒss;
Sp. Ammon. Aromat., ʒj.

and repeat in an hour; she was killed in the afternoon.

Case 2.—One o'clock, P.M.—There is a great disposition in the cow to rub the hind quarters and legs; a spasdomic catching is observed in the flank; pulse natural; feeds; no other symptoms present. I administered a bold aperient, combining Ext. Belladon. ʒj; ordered injections to be freely used, and applied a mild stimulant to the loins.

Five P.M.—The patient now rubs and bites herself violently about the hind legs; other symptoms the same as at one o'clock.

30th.—Six, A.M.—The cow is down, and has been so since four o'clock. She foams at mouth, and beats herself about violently. Alarming convulsions have now set in, seizing the whole body; the respiration is greatly excited; cold sweats bedew the whole body; pulse 120; the appearance

of the animal shows that she cannot possibly survive much longer; at half-past nine she died. This case lived about twenty-three hours after she first showed symptoms of being unwell.

Post-mortem Examination—Abdominal Cavity.—Contents of the third stomach hard; the small intestines show traces of slight inflammatory action. The rectum is considerably inflamed for about six or eight inches from the anal opening, as is also the vagina; the liver, spleen, kidneys, bladder, and uterus are healthy.

The whole of the contents of the thorax healthy.

The vessels of the brain were somewhat distended, but I was unable to detect anything like disease. Mr. Cooper, of Berkhampstead, assisted me in the *post-mortem* examination, and we were very particular, as rumours were current, that the animal had been maliciously injured; such, however, was not the case; in fact, the only indication of disease that wewere able to detect was a hardened condition of the contents of the third stomach, and inflammatory action existing in the last portion of the rectum and vagina, but not in any way sufficient to cause death in so short a space of time; no poisonous herbs could be detected in the pastures that the cow had been grazing in; and two others that were with them have escaped. Can you throw any light upon these cases, as we are at present unable to assign a cause for so unusual an occurrence, further than conjecture that they have been poisoned either by what they have eaten or drunk; unfortunately, the contents of the stomach have not been analysed. The *post-mortem* appearances in all the cases were nearly alike.

I am, sir, yours obediently.

PHRENITIS IN CALVES.

By Cornelius Laycock, V.S., Hirst-Courtney, near Selby.

Sir,—If you think the following worthy a place in your aluable periodical, it is at your service.

On the 29th ult. I was called to Mr. W. Anson's, of Fair Oaks, near Selby, Yorkshire. On my arrival, I found nine yearling calves dead, and two labouring under that dreadful disease, phrenitis.

Treatment.—Venesection to fainting; gave to each half a pound of Mag. Sulph., and one scruple of the farina of the

croton nut, in a little warm water, to be repeated in half doses, until the bowels were freely opened; then gave the fever medicines for three or four days. They are now doing well. It seems rather strange that so many should be attacked with this malady at once; but after inquiring into the case, I find they had been all grazing together, and, for some time previous, been nearly without water, and, the day they began, to be ill, had been driven about a mile to a good supply of river water. Query, would this produce the complaint in question? I should feel extremely obliged by yours, or the opinion of any of your correspondents.

Yours truly,

Nov. 7, 1854.

P.S.—I might as well observe, that I saw five lying dead in one place, and the owner informed me another had run into an outhouse, and immediately died, the seventh broke its leg in leaping a hedge, the two remaining (of the nine) galloped straight away regardless of obstacles; one died after suddenly stopping and turning round a few times, the other was found in a drain about two miles from home; I had no opportunity of making a *post-mortem* examination, neither did I think it necessary, as the disease is so well known to veterinarians.

TRACHEOTOMY—IMPROVEMENTS IN THE TUBE USED.

By Francis King, M.R.C.V.S., Stanmore, Middlesex.

Dear Percivall,—Having had occasion, within this last few years, to perform the operation of tracheotomy three times, has induced me to send you the result of each case, if worthy a place in your periodical. The first was a severe case of strangles in a foal, with excessive inflammation and extensive abscesses, and, feeling sure that the little animal must be suffocated, I made my incision, stretched the skin back, and took out a portion of one of the rings, and kept the orifice open for about ten days, and he ultimately did extremely well.

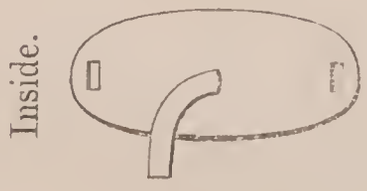
Another was a very severe case. I was not called in to see it in the first instance, but was sent for in a hurry (as it proved) at the last moment. It was a well bred colt. On going into the stable, I found the poor animal in great distress, being quite in a state of suffocation. I told the owner there was only one

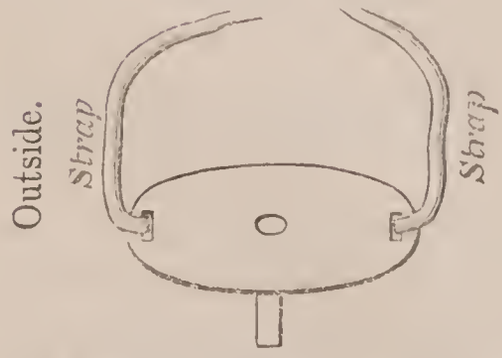
thing to be done, at all likely to save the poor thing, viz., tracheotomy, and that it must be done directly. He then left the stable, and I proceeded to make the requisite incision through the skin and integuments, and laid bare the trachea. Finding him get very restless, I put on the twitch, when, in attempting to make an opening through the cartilage, he struck out sharply with his fore foot (which made me draw back), reared up, and fell backwards, dead in the stall, without a struggle. This was of course to me a very unsatisfactory result. It too often happens, I am sorry to say, that even with gentlemen—when a veterinary surgeon has been in attendance several years—should any one be living a little nearer, whether a regular veterinary surgeon or not, that he is called in, as they say, "for convenience sake." In this case, severe as it had been, no treatment externally, beyond fomentations, had been adopted; had it been otherwise, I doubt not that the result would have been different.

The other was an old case, quite chronic, and I was told, had been amiss for a twelvemonth or more, and the horse, a heavy cart horse, lying idle all the time. I saw that nothing short of the operation would do for him, and that for a permanency. I accordingly ordered him to be brought to my house on a particular day. He came on the day. I had procured a tube like No. 1, from Brennand's, in Holborn, and having made the requisite opening, I inserted it, and strapped it on, but I soon found that when the horse held his head at all downwards, it would not keep its position at all.

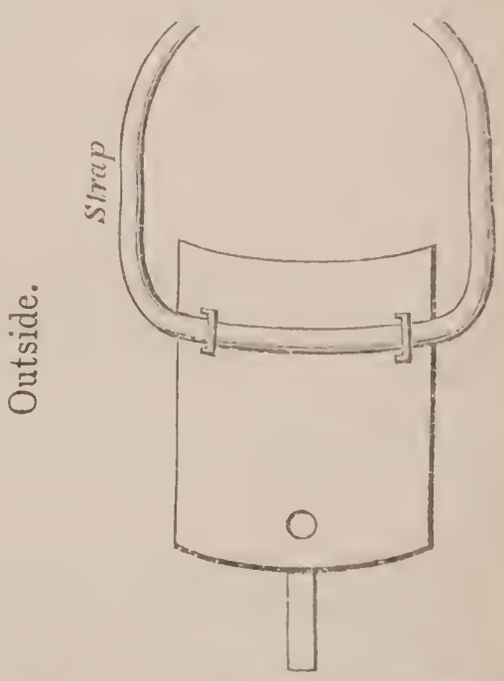
Mr. King's Tracheotomy Tubes.

Form of Tube, No. 1.





No. 2.



I had a larger one made, rather expensive, but with the same result. As the horse was staying with me, I had every

opportunity of watching the effect, but found I could not keep the tube in, anyhow at all. I therefore set my wits to work, and kept him tied up to the rack, till I got a tube made according to No. 2, different in shape and material as well, being made of copper, tinned over, and curved to fit the neck. The plan I adopted has been very successful; and the horse has been at work now nearly three years, and works as well as any of the others. When he left me, I sent an extra tube home with him, so that when one became furred over, the parties themselves might insert a clean one. I send you a rough drawing of the two kinds. I don't know whether it might be fancy or not, but I certainly thought the copper tinned tube did not collect the mucus, &c., so much as the plated one.

The tube I procured in London was rather flat, my own, circular. You will see that in the former, the straps are attached to each end of the plate. Whereas with mine, the plate is deeper, and I only use one strap, which passes through both loops, which are placed at the upper part of the plate, by which means the plate is kept close to the neck, and the tube, being at the lower part, is kept constantly in its place. There was one advantage, however, in the plated tube (but which may be applied to the other), and that is a slide with a screw, to alter the length of the tube from the trachea to the plate, in case of much swelling ensuing, and which I should get done whenever necessity may require it. My sketch is but a rough one, not being much of a hand at that sort of thing, so you must take the will for the deed, and if it is worth anything, deal with it as you like, and

Believe me,

Yours truly.

MR. MAYHEW'S LETTER OF REJOINDER TO MR. BARLOW.

To the Editor of 'The Veterinarian.'

Sir,—The letter from Mr. Barlow, published in your last, is more conspicuous for an assumed air of animal spirit than remarkable for the delicacy of its style, the purity of its diction, or the poignancy of its wit. The effusion commences with an allusion to "*the wonderful story of a heart.*" I must imply the allusion to refer to a communication of mine, which

had the honour of appearing in '*The Veterinarian*' some months ago.

In that paper I, save when specially pointing to the contrary, appeal to facts. If Mr. Barlow's studies do not enable him to follow me through so very simple a statement of things, which should be obvious to every professional mind, I may regret his ignorance, but cannot possibly enlighten his understanding.

I was just as "matchless" in my "reckless assumption," and in "the wild vagaries of a morbid fancy," in "the wonderful story of a heart," as I happened to be in my last communication to your journal. In both instances I proceeded upon previous information. Indeed, after the specimen I had experienced of his qualifications, it did surprise me that Mr. Barlow should be exalted into an editor; but, when he supposes I, out of my imagination, elevated him to such a position, I must assure him he gives me credit for a power of conjecture, to which I have not the slightest claim. Against my better judgment, and in direct opposition to anything I could have supposed possible, I was misled by positive assertion volunteered by a gentleman living a few miles north of the Tweed.

My credulity is to be regretted; but the too active imagination, which Mr. Barlow imputes as a grievous sin to me, appears to remain with him, since his "morbid fancy" made me do that which I do not think all the stimulants in England could have rendered me foolish enough to have supposed. Mr. Barlow certainly is gifted with inordinate imagination, for it has tempted him to invest me with "*sentimentality*,"—a quality which no critic has hitherto detected in any writing to which my name has been appended.

May I beg that somebody—not the author of the late imaginative epistle—will enlighten me by pointing to the passages which induced the sagacious Mr. Barlow to honour me with so very novel an attribute.

I have the honour to be, sir,
Your very humble servant,
EDWARD MAYHEW.

7, LONDON STREET, NORFOLK SQUARE,
PADDINGTON.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Horse-Shoeing, as it is Done, and as it ought to be: *a Letter addressed to the President and Members of the Saint John Agricultural Society.* With Plates and Illustrations. By M. A. Cuming, V.S., Member of the Royal College of Veterinary Surgeons of Edinburgh and London. 1854. Pamphlet, 8vo, pp. 21.

The present *brochure* consists of the publication of "A Letter to the President and Members of the St. John Agricultural Society," the origin of which, we are informed, was as follows:

"Gentlemen,—In addressing you on the particular point in the treatment of your horses placed at the head of this letter, I may be allowed to guard myself against the imputation of obtrusiveness, by referring to the following extract from the original application of the society, by which I was induced to come to this city and province. In writing to Professor Dick, of Edinburgh, to recommend a competent Veterinary Surgeon for St John, the corresponding secretary of your society said:—'It is greatly desired by the members of the society that the surgeon should have in connection with his establishment, or under his charge, *a forge* where horses could be shod in a proper manner. At present we are very badly off in this respect, there being but few smiths with whom a good horse can be safely trusted.'

"This was written in the summer of 1851, and my own observation after coming here in 1852, fully bore out the truth of the statement. It was not necessary to take off shoes, or examine feet, or enter into any other minute kind of inspection to find out the evil. The long donkey-like hoofs everywhere seen, and the number of horses lame from corns, contractions, ringbones, spavins, sprained tendons and interfering, were sufficient evidence that the society had not instructed its secretary to write as he did without abundant cause.

"Such being the case, there is need for little further proof that the horses here are not generally shod as they should be, nor is it required that I should argue the benefits of a better system. The adage, 'no foot no horse,' is equally applicable here as where it was first used. In this country, where horses are hard driven, and too light generally for their work, it is of the greatest importance that as few defects should exist in the plan of shoeing them, and as many advantages be combined as the state of the shoeing art will admit of, and it is to further this desirable end that the following remarks are meant. In writing my ideas, therefore, on horse shoeing, I have no wish that they should be looked upon as a complete or formal treatise on the subject. So many of these having already been pub-

lished by men eminent in the art, as to supply to the scientific or enquiring reader all the information that books can give. My object is of a less pretending but more practical character, namely, to point out the errors most commonly fallen into as the thing is done among ourselves, the effects of these errors, and their remedy."

Mr. Cuming, V.S., the author of the letter, here tells us, "he was induced to come to this city* and province" at the instigation of the (St. John) Society, whose secretary was instructed to write to Professor Dick, of Edinburgh, "to recommend a competent veterinary surgeon for St. John," and, in doing so, to state, "It was greatly desired by the members that the surgeon should have in connection with this establishment, or under his charge, *a forge* where horses could be shod in a proper manner," showing at once that the object desired by the Society was, to correct the present (at that time) evil practices in farriery, and introduce in lieu thereof a system of shoeing horses at least free from such injurious tendency, and founded upon principles of a science hardly known even, and never regarded, in their shoeing forges. There is something in this which puts one in mind of the sowing of the seeds of veterinary science in Britain. Many years ago, a French gentleman was invited to come over to our country and sow the seed; and he did so, though that seed—the original sower himself being cut prematurely off—was nurtured and brought to maturity by the skilful and dexterous hand of Coleman, who, in truth, was the founder and propagator of the Veterinary Art on scientific principles in Britain.

Supposing that Mr. Cuming had such a field opened to him in New Brunswick as this, high must have beaten his breast, and inflated must it have proved on prospects so bright and glittering staring him in the face, however distant and faint might the picture have appeared. He raised his standard at St. John's as the proclaimer of a new science, one, at least, that was not at the time in a state of cultivation, but yet one that promised large returns, in the end, for extensive and laborious culture. Nor did any branch of the

* Fredericton, North America, capital of New Brunswick, on the St. John.

fresh planted tree promise a more fruitful return than the one loaded with the budding, but, as yet, unopened blossoms of the art, teaching the right management of horses' feet and the correct practice of shoeing. So much certainly depends upon the proper culture in this branch of our art; so much is lost and actual mischief done by error and misconception that, shoeing may be said to form the basis or corner-stone of our art, and evidently ought to be that point from which innovation and amendment should take its commencement.

"The first thing that takes the notice of any one accustomed to see horses well shod, on looking at the feet of almost all he meets here, is the preposterous length of the toes. So strange, indeed, did this feature seem to me at first, that I doubted if the internal parts of the foot could be the same as those I had been used to see elsewhere, or if nature had not in a freak made them different here from what they are in other places. Subsequent inspection, however, has shown me that this is not the case, that nature forms the feet of horses here the same as everywhere else, and that the absurd and often ludicrous forms we often see them fashioned into, is only the work of the shoeing-smith. When the foot is unshod, and the horse at liberty, the growth of the hoof is barely sufficient to provide for the constant wear and tear of the sole and toe, and consequently no part is either wanting or superabundant. But when the horse is put to work on hard roads, and stands in dry stables, the foot becomes inadequate to the wear, and to save it we put an iron shoe on. This shoe prevents the wear, without checking the growth of the hoof; and to compensate for this, every time the shoe is off, the foot should be brought as near as possible to the form and size that nature gave it. In the unshod colt, the greatest diameter of the hoof is across the sole. This is especially the case in the fore foot, and it contributes materially to the usefulness of the animal that it should continue so through life."

Again—

"Every one knows what is meant by a horse being 'sprung in the knees.' For the information of those who are curious to know how this condition is produced, I will explain one of its causes. The bones of the foot and pastern of the horse do not stand perpendicularly above each other, but slope backwards, a considerable portion of the animal's weight resting on the tendons that pass down the back of the leg, and hence the greater the slope, the more the strain the tendons have to bear. If we put a horse to stand with his head up hill, more exertion is needed to sustain himself than if standing on a level. The reason is, that the bones of the foot and pastern are thereby placed more obliquely, and more of his weight is thrown upon the tendons and muscles, and thus a wearied horse, if left to himself, always feeds with his head down hill. But we add to the slope of the foot and pastern the same by adding to the length of the hoof and shoe, as by placing the horse's head up hill, and with greater permanency of effects, as we leave him no power to relieve himself. Often the two conditions are conjoined, the toes are injuriously long, and the horse is confined nine-tenths of his time in a sloping stall. Here the muscular exertion of sustaining his weight

soon becomes irksome. He shifts from one foot to another, but finds it only a temporary relief. The muscles connected with the tendons that pass down the back part of the leg to the foot, soon begin to relax, till the weight falls on the ligamentous straps behind and below the knee. Then the bones of the pastern and foot become still more sloping, and to sustain his body perpendicularly above his feet, and still more to relax the muscles, the knee bulges out in front to a line with the projecting toe. This at first occurs only now and then, when the horse is wearied or forgetful, his postures becoming natural and proper when roused up. By-and-by, however, it becomes a habit, and the causes being permanent and constant in their action, the effects soon become the same, and we have the horse for life 'sprung in the knee.'

"Many a valuable animal, tottering on the brink of this condition, has been saved and brought back to usefulness, by having his feet put in a proper shape, and a run at grass, or a loose box to stand in allowed him, while others on whom the torture of long toes and sloping stalls was persevered with, have become permanently useless."

By the following, we take it Mr. Cuming is speaking of the skait-like curve given to the toe of the fore foot:—

"The fore foot of the horse, as nature makes it, has no such projection in front and downward as that which the smiths here give it, but rather the reverse. The sole surface at the toe is commonly broken off and notched back at the middle, so that the pressure, when the foot strikes the ground, or the animal is raising his weight, is distributed over the whole front of the foot. In accordance with this the coffin bone, which fills the internal cavity of the hoof, has the same turned up and notched back form. In England, France, and on the Continent of Europe generally, wherever veterinary schools exist, and scientific attention is given to shoeing, this natural form of foot is more or less followed in the shape of the shoe, and the animal has preserved to him, along with the protection from wear which the shoe gives, the position of tread for which nature has constructed the other mechanical arrangements of his organs of motion. Why it is not so here is partially, perhaps, due to the use of buttris for cleaning out the foot when it is shod, as it is impossible with this antiquated instrument to bring the hoof to the proper shape in all its parts; but it is more so to want of study on the part of those who shoe, of the structure of the foot, its uses, and the relation existing between it and the other motive organs, the bones, tendons, and ligaments of the limbs."

We cannot join in accord with Mr. Cuming when he says, "*In England*, &c., this *natural* (?) form of foot is followed in the shape of the shoe." On the contrary, we believe that, in the majority of forges, the uncut or straight form of toe—the *unnatural* form, as Mr. Cuming would call it, prevails; the "broken off" or "notched-back shape," is what we designate as the *French cut*, and only, we believe, is practised in certain forges. Our ordinary or national shoeing in England is not the *rocking* ground surface, but either the straight or the concave one.

Mr. Cuming's "Letter" is one well calculated to point out the erroneous and mistaken practices of shoeing pursued in the province (New Brunswick), and so far to lead to their correction. Following this up with the institution of shoeing establishments, under his direct and immediate superintendence, he will in time effect this object—one so desirable, it would appear, in that country. He concludes his letter as follows; but beyond this, he laudably tells us he has an *ulterior* object, viz., "To improve the condition of the art *generally*."

"In submitting these remarks to the members of the St. John Agricultural Society, I have two objects mainly in view: the first is to remind them that in the same letter in which their secretary complained of the condition of horse-shoeing here, and desired the aid of some one to improve it, he also said that 'the society would take such person under patronage, and give him all the support in their power;' on the faith of these representations I have spared no expense in fitting up a forge for horse-shoeing, where every improvement in the art is practiced, and the errors current in the country (being known) are studiously avoided, and having done so, I feel myself entitled to ask in return a share of 'patronage' and 'support' from the society and its members.

"But beyond this my object is to improve the condition of the art generally in the province, and, to do this, sundry means present themselves. The first I would mention is the publication by the society (if they think it deserving) of this letter. I am aware that its statements will be new to many, to some no doubt displeasing. Those who shoe as I have described the cultivators of the long toes, and perpetrators of heel-nailing will not like it, but this I cannot help, improvement must not keep back for them. If their modes will bear defending let them defend them, if they will not, let them give them up for better, and either way the public and themselves will profit.

"A second means that suggests itself is the sending copies of this to parties at a distance, where opposition need not create prejudice, and from which some of those who practise the art may come and see for themselves the advantage of plans better than their own, and learn them. A third means is altogether in the hands of the public. It is for those who care for the welfare of their horses, and like them to have all the advantages of a good shoe well put on, to send them, though but once, to have a trial, and then to judge for themselves.

"Gentlemen interested in improvement visiting St. John, though only now and then, by having their horses feet at such times put in proper shape and well made shoes put on them, might soon be the means of spreading a better system than the present to quarters not otherwise likely to be soon reached. Other means might be named, any in fact by which better information could be spread, and more rational practices introduced, and we might hope soon to see the long toes disappear, and with them the 'sprung knees,' 'corny heels,' 'ring-bones,' 'contractions,' and other collateral evils.

"In conclusion, Mr. president and gentlemen of the St. John Agricultural Society, it would ill become me to advertise my own claims to business by your means, were you not interested, and to benefit as well as me: your

corresponding secretary, in his letter to Professor Dick, to which I have already twice referred, says, 'If you have any friend for whom you wish to provide comfortably, here is a favorable opportunity for your doing so.' I have no wish, gentlemen, for such 'provision' as is here indicated: all I ask for is such a share of employment in the calling which you sought me to come here and practise, as may enable me to live by it. Nor do I ask this without offering you, as I have endeavoured to show, advantages in exchange, which you can nowhere else obtain: but do not take this on my word, look into the matter yourselves, observe the number of horses crippled in the different ways I have named, and, if fortunate in your own having escaped, reflect that it may not be always so, but that he is as liable as others to be the victim of a bad system. Ask if art and science, where these have most been cultivated, can do anything to remedy or prevent such wholesale mischief, and, if you find that they can, give them at least a trial, and do not be content to live fifty years behind the rest of the world, even in the treatment of your horses' feet.

"Gentlemen,

"I have the honour to be,

"Your most obedient servant,

"M. A. Cuming, V. S.

The plates illustrating Mr. Cuming's improvements in their practice of shoeing, plainly point out to them the course they ought to pursue.

Foreign Department.

NOTES ON THE PERICARDITIS OF THE LARGE DOMESTIC RUMINANTS, WITH REFLECTIONS, &c.

By M. Mathieu, V.S. at Ancy-le-Franc, (Yonne), &c.

The little information we possess on the pericarditis of the larger domestic ruminants, has determined me to publish some notes I took of this disease five or six years ago. I say *notes* and not *observations* since they are collected from a succession of incomplete fragmentary papers composed in a hurry near the patients, which it has been impossible for me to revise.

The causes of pericarditis are nearly the same as those of pleurisy, peritonitis, and inflammation of other serous membranes. Sudden impressions of cold upon the cutaneous surface, external violence, inflammation of the tissue of the heart and those of the pleuræ, may sometimes give rise to pericarditis. By certain authors a special cause has been assigned for this disease. I am speaking of the penetration

of the pericardium, and even of the substance of the heart, by divers foreign bodies (such as pins, needles, &c.), coming from the interior of the reticulum and rumen.*

The general symptoms are anxiety, shivering, coldness skin, want of appetite, disordered digestion, and cessation of rumination, such as may be remarked in almost all the grave affections of bovine animals; however, I ought to add, it is only in pleuritis and pericarditis that I have observed coldness of the skin, mouth, and horns, to be so intense, and that profound anxiety to be present which is the sure indication of a severe attack of the organism.

To RESUME, the venous pulse, the engorgement of the jugulars, the intense force and pulsations of the heart, pain in the cardial regions, show the differences between pericarditis and pleuritis.

At the periods of increase and confirmation, the firmness and size of the external jugulars, the complete absence of pulsation of the heart, the appearance of swelling under the jaw, and in front of the breast, the metallic tinkle and pain on percussion of the walls of the thorax upon a level with the pericardium, are pathognomonic symptoms of pericarditis.

Lastly, when with these symptoms come to be united diminution or almost cessation of the respiratory murmur in the lower half of the chest, while there is augmentation of the murmur in the upper half of the cavity, the absence of pain on the percussion of the superior half, the double expiration, with contortion of the ribs as in hydrothorax, we may be certain that a considerable quantity of fluid is present within the pericardium. *Rec. de Méd. Vét. de Sept.*, 1854.

CONTAGION OF GLANDERS TO MAN.

Veterinary journals have already published several examples (unfortunately but too many) of the contagion of glanders of animals to man. Researches in pathological anatomy have been by some medical men directed to this point, and it has been ascertained that the transmission of this terrible disease of solipedes to man, has turned out a sad reality, and augmented the nosological catalogue of human kind which had already calamities enough assailing them.

* Some facts seem to make it appear to me that pericardites, which are owing to these traumatic lesions of the heart and its envelopes, ordinarily appear of the sub-inflammatory type.

Notwithstanding, the examples of contagion of one kind or other, are, as I have said, unfortunately too numerous to admit of question; the registration of the following fact, which has just taken place in my own practice, and under my own eyes, is not, it appears to me, without its utility since it augments the large collection of proofs already so convincing, and dissipates any doubts that may yet lurk in minds incredulous of the facts.

On the 27th of February (January ?), 1854, an entire horse, about 18 years of age, of good temper, and excellent constitution, though in bad state of health, was shown to me for a discharge which had issued for some time from the left nostril, accompanied by a dry but slight cough; the glands under the throat were somewhat swollen. This horse continually worked at heavy draught, and has always been cheerful during the time, has been well fed, and, nevertheless, has been losing his condition. The discharge is but little, rather yellow, limpid, and feebly adheres to the nostrils; the mucous membrane of the nose is rose-coloured, clean, and free from any tumefaction; the gland on the left side is small, smooth, little painful, detached from the bone, and perfectly moveable under the fingers. There is nothing particular in the state of the pulse, conjunctivæ, or respiration; the testes are perfectly healthy.

Although there appeared nothing absolutely alarming in these symptoms, I recommended immediate isolation of the patient, and prescribed the following medicines: viz.;— astringent fumigations, slightly aromatic; injections of the same nature into the nasal cavities, six *grammes* a day of emetic medicine in suspension in honey; light work, and choice food.

Eight days after, notable amelioration had been produced; the discharge had become more clean and less abundant, the gland less sensible, and diminished in volume, the appetite continued good, and the horse appeared recovering, somewhat, his condition. Same prescriptions.

At this period another horse standing next to him, older than himself, under the same regimen of temperament and work, presented the same symptoms. He was submitted to similar treatment, which produced like amelioration. The apprehensions I had been under, from the commencement, began then to vanish.

Unfortunately this amelioration proved but transitory in both patients, and from the 15th to the 20th of February the symptoms assumed frghtful intensity; the discharge became augmented, turned green, adhered to the nostrils, and shewed

itself equally on the right side; the gland was much more swollen, lumpy, and adherent to the bone, and is painful; appetite diminishes; emaciation makes notable progress, and the *septum nasi* presents numerous pustules, and in several places ulcerations; indeed, in the second patient, agglomerated and re-united in a manner to form one sheet of ulceration, with ragged borders and a dirty uneven base. The testicular organs in both animals remained unaffected.

From this moment there was no longer any doubt: both horses were immediately destroyed.

For the last fortnight these horses had been treated by the proprietor himself, who in the course of that time contracted the glanders in spite of all the precautions I had strongly urged him to take: not doubting but that he exposed himself to great risks. Notwithstanding, one could not positively assert the channel through which contagion had taken place; it was easy to suppose what the contagious agent was, and how the glandered virus had operated.

Towards the 9th of March this unfortunate proprietor, a man of middle age, robust health, and in possession of a temperament which up to that time had resisted all sorts of fatigues, exhibited on his right arm, a little above the elbow-joint, a pretty voluminous tumour, sensitive to the feel, having the appearance of purulent phlegmon, and yet offering all the characters of a recent inflammatory swelling. Sharp attack of fever, considerable depression, sinking in some measure of the vital functions; a notable alteration in his features take place with this purulent collection. After several emollient applications, the tumour was opened, and gave issue to abundance of pus of laudable character, (though what rather astonished the doctor in attendance) was the sudden and marked separation of the lips of the wound which afterwards became everted and converted into a sort of ulcer, the cicatrization of which, nevertheless, took place with sufficient promptitude. Some days after similar swellings rose, first on the limbs, then on the arms; but this time, after having exhibited some slight inflammatory symptoms, they disappeared without leaving any traces of their existence.

At length, his face partook of the general alterations: a green glandered discharge issues in abundance from the nostrils and sticks about them; the face becomes swollen up to a degree; pustules at first, and afterwards veritable chancres are developed around and in front of the nose; he becomes more and more emaciated, and on the 19th or 20th of March falls a victim to the destructive disease, without having suffered any very violent pain from it.

During the time this frightful malady lasted, we employed, without success, tonics and antiseptics internally; astringents, caustics even, and antiputrescents externally.

However incomplete this case may be deemed, especially as far as concerns the unfortunate subject of contagion, do not similar details to those I have just related exist in abundance, and prove in a most undeniable manner that human nature enjoys the sad prerogative of contracting, through inoculation, a disease so terrible among our domestic animals, and one which veterinary science has designed under the name of glanders.—*Rec. de Méd. Vét. de Sep.* 1854.

ANOTHER INSTANCE OF THE TRANSMISSION OF GLANDERS TO MAN.

In March '53, a messenger named Meignan, of the Commune of Chemilli, consulted a quack by the name of Moqué, about a discharge affecting one of his horses.

Moqué, who passed in the country as formerly a pupil of the veterinary school at Alfort, and even assumed in his practice the title of veterinary surgeon, declared, after having examined Meignan's horse, that he was affected with "strangles," but that Meignan might use him and treat him without any risk of harm, and that he would answer for his recovery.

Meignan, equally simple and confiding, followed this dangerous advice. He made use of his horse, treated and groomed him according to the instructions given; in fact was too faithful an executor of the prescriptions of a man in whom he had placed his confidence: he would daily wipe the nostrils of the animal clean with his pocket-handkerchief, lest he might be found fault with by the authorities of the villages he was necessitated to pass through.

Such care became to him fatal.

On the 7th of April this unfortunate messenger fell a victim to the effects of the farcino-glanderous attack contracted from his horse.

Some days after his death M. Pangoué, veterinarian, called in by the authority, pronounced that the horse of this unfortunate man was affected with acute glanders, and recommended accordingly his immediate destruction.

Our brethren, M. M. Pangoué and Bresson, communicated to us this fact as another proof of the dangers of empiricism. It is not only through their ignorance, as in this case, that

empirics prove dangerous, but likewise at times by their immorality.

Here comes another fact. We extract from a letter of these two veterinarians, who together attest it:—

"In the month of August last, the Court of Assize of Loir-et-Cher had to adjudicate on a case of poisoning by arsenic, in which an empiric, named Leconte, living at Coutun, near Châtre, had become involved in having prepared and furnished a poison.

"This man (appreciated at his just worth by him interested in the execution of the crime) had been consulted on the choice of the poison to be used, and a reward had been promised him. Arsenic was selected, and given by Leconte.

"Recognised as culpable of having assisted in the perpetration of the crime, Leconte had been condemned to twenty years of hard labour."—*Rec. de Méd. Vet. de Sept.* 1854.

Home Department.

ON A NEW AND SIMPLE METHOD OF DETERMINING THE AMOUNT OF UREA IN THE URINARY SECRETIONS.

By Edmund Wm. Davy, A.B., M.B., T.C.D.
Lecturer on Chemistry in the Carmichael School of Medicine, Dublin.

Urea has long been regarded with much interest by scientific men, on account of its physiological and chemical relations.

It represents one of the last stages of a series of metamorphoses or changes, which nitrogenous matter undergoes in the animal economy, and is the form under which the detritus of pre-existing nitrogenous tissues, which have become effete, principally passes from the system.

This interesting organic base, urea, is not only formed during the exercise of the vital functions in man, and some of the higher animals, but is also produced during the chemical decomposition of a number of substances containing nitrogen; and the chemist can now obtain it in any quantity by artificial means, and thus imitate one of the most important results of the chemistry of life.

In reference to medicine, urea is not without some practical interest, as it is well known that during various diseased con-

ditions of the system the quantity of urea eliminated from the blood by the action of the kidneys, and excreted in the urine, is occasionally subject to great variation; and some ready means of ascertaining its quantity in that secretion might frequently aid the physician in forming his diagnosis of certain diseases.

Different means of effecting this object have, from time to time, been proposed; but all the methods hitherto recommended, with perhaps the exception of Baron Liebig's recent one, require for their execution much time and trouble, and in some cases complicated and expensive apparatus, and though capable, in experienced hands, of yielding tolerably accurate results, would, in the case of those not much practised in chemical manipulation, and perhaps unaware of the many sources of error to be guarded against, give anything but correct results; and, therefore, inapplicable to the greater number of those desirous of a quick and easy method of determining the amount of urea in urine.

The method I propose is one of extreme simplicity, and can be performed by almost any one in a very few minutes, and is capable of yielding results sufficiently accurate for all practical purposes.

It is founded on the fact I have recently observed, that urea is very readily decomposed by the chlorides, or rather hypochlorites, of soda, potash, or lime, and that its constituent nitrogen is evolved in the gaseous state, and from the quantity of gas evolved, I estimate the amount of urea present.

After trying different means of carrying out this fact, with a view of making it available to determine the quantity of urea in urine, I found that the following very simple one seemed to answer the purpose completely.

I take a glass tube, about twelve or fourteen inches long, closed at one end, and its open extremity ground smooth, and having the bore not larger than the thumb can conveniently cover. This I fill more than a third full of mercury, and afterwards pour in carefully a measured quantity of urine to be examined, which may be from a quarter of a drachm to a drachm, or upwards, according to the capacity of the tube; then, holding the tube in one hand, near its open extremity, and having the thumb in readiness to cover the aperture, I quickly fill it completely full with a solution of the hypochlorite of soda (taking care not to overflow the tube), and then instantly cover the opening with the thumb tightly, and having rapidly inverted the tube once or twice to mix the urine with the hypochlorite, I finally open the tube under a saturated solution of common salt in water, contained in a

steady cup or small mortar. The mercury then flows out, and the solution of salt takes its place, and the mixture of urine and hypochlorite being lighter than the solution of salt, will remain in the upper part of the tube, and will therefore be prevented from descending and mixing with the fluid in the cup. A rapid disengagement of minute globules of gas soon takes place in the mixture in the upper part of the tube, and the gas is there retained and collected.

The tube is then left in the upright position, till there is no further appearance of minute globules of gas being formed; the time being dependent on the strength of the hypochlorite and the quantity of urea present; but the decomposition is generally completed in from three to four hours. It may, however, be left much longer, even for a day, if convenient, and having set the experiment going, it requires no further attention; and when the decomposition is completed, it is only necessary to measure the quantity of gas produced, by transferring it into a graduated tube or measure.

I have generally used a graduated tube in the first instance, as it saves the trouble of transferring the gas, and incurring the risk of losing some of it in the process.

That which I would recommend as being convenient for this purpose, is a stout tube having a bore of half an inch in diameter, and capable of holding from two to three cubic inches. A tube having this bore, and about fourteen inches in length, will hold two-and-a-half cubic inches, which will be quite large enough. Each cubic inch of it should be divided into tenths and hundredths of a part of a cubic inch. It is scarcely necessary to remark, that in cases where great accuracy is required, due attention must be paid to the temperature and atmospheric pressure, and certain corrections made if these should deviate from the usual standards at the time of reading off the volume of the gas; but in most cases, sufficiently near approximations to accuracy may be obtained without reference to these particulars.

From a number of experiments I have ascertained that the quantity of gas evolved from different amounts of urea (treated in the way I have described), very closely approximates to the quantity of nitrogen gas which should be furnished from the urea by calculation.

This will be seen from the following experiments taken from many:

The fifth part of a grain of urea should furnish by calculation, 0·3098 parts of a cubic inch of nitrogen gas, at 60° Fahr. and 30′ Bar.; the same quantity of urea, treated, as described,

furnished in one experiment, 0·3001, and in another, 0·3069 parts of a cubic inch of gas, at the same temperature and pressure, which shows that the calculated quantity of nitrogen differs from the amount of nitrogen gas obtained by only a few thousandths of a part of a cubic inch. I may observe, that I was obliged to operate on such small quantities of urea, on account of the graduated tube I had at the time being only of one cubic inch capacity. Seeing, then, that the quantity of gas evolved agrees so very closely with the calculated amount of nitrogen present in a certain quantity of urea, I take the calculated amount as being the more correct, and knowing the relation that exists between a certain quantity of urea and nitrogen, I can, from the quantity of gas evolved in any case, easily calculate the amount of urea present, by the simple process of rule of three.

Thus, the fifth part of a grain, or 0·2 of a grain of urea gives, by calculation, 0.3098 parts of a cubic inch of gas. Then, 0·3098 : the volume of gas found : : 0·2 : to the required quantity of urea, or, multiplying the first and third terms by five, we have 1·549 cubic inch of gas representing 1· grain of urea, which is a simpler proportion. Using this data, I made several comparative experiments on different samples of urine, with my method and that of Baron Liebig's, which I believe is considered one of the most accurate of the methods of determining urea in urine at present known.

The following are the results of three comparative experiments on different samples of urine, using the same with each method :—

	Amount of urea in grains and parts of a grain in one fluid ounce of urine.	
	Liebig's.	*New Method.*
First	3·680	3·712
Second	5·328	5·472
Third	4·976	4·976

In the first and second experiments the quantity of common salt present in the urine was taken into account, as it is found to increase to a slight extent the apparent quantity of urea in the urine by Liebig's method ; in the third this was not taken into consideration, and the quantity of urea was compared with the mean of two results obtained by my method.

These experiments show how very closely the results obtained by the new method agree with those by Baron Liebig's, and therefore show the correctness of the former method. I prefer the hypochlorite of soda to that of potash as a decomposing agent, because the soda salt is an article of our

pharmacopœia, under the name "Sodæ Chlorinatæ Liquor," and therefore can be so easily procured; whereas the potash salt, not being used in medicine, would require to be specially made for this purpose. As to the hypochlorite of lime I do not think it so effectual, and it has the disadvantage of soiling the sides of the graduated tube by the carbonate of lime formed in the reaction. In reference to the quantity of hypochlorite of soda to be used, it should always be employed in excess, and I think that about five or six times the volume of urine employed would be found generally to be quite sufficient, and ensure there being an excess.

The amount to be used may be easily determined by direct experiment, by adding to a certain quantity of urine to be examined, in a small glass, a measured quantity of the hypochlorite, and leaving it for a short time till the evolution of gas is nearly over; then if, on the addition of more of the hypochlorite, the effervescence is renewed, it shows that there was not enough of the decomposing liquor first employed, and more must be added till there is no further evolution of gas produced, and the quantity of hypochlorite which is required to arrive at this point indicates the amount necessary. I found by experiment that one grain of urea requires somewhere about half a fluid ounce of the ordinary Sodæ chlorinatæ liquor for its complete decomposition.

The amount of mercury employed requires some little attention; it should, as a general rule, be never less than the volume of gas evolved, for if the volume of gas produced is more than that of the mercury employed, it will be more than that of the solution of salt, and therefore some of the mixture of urine and the hypochlorite will be forced out of the tube before it is completely decomposed, and consequently some of the gas will be lost; so that if this occurs we must repeat the experiment, using either a larger quantity of mercury, if our tube will allow, or diminishing the quantity of urine employed. It might be supposed, on first sight, that this method would be liable to the following source of error, viz.—that some of the gas would be evolved and lost during the pouring in of the hypochlorite; but this is not the case, as several seconds elapse before there is any apparent reaction or evolution of gas on mixing the hypochlorite with the urine, and therefore giving full time to perform the experiment without loss of any gas.

I have, also, ascertained that the ordinary acid reaction of the urine does not affect my method.

I should observe, that this new method, like all the others known, is not perfectly free from some slight sources of

error; the principal one being, that ammonia, if it exists in the urine, gives rise to nitrogen, and, therefore, increases the apparent amount of urea. But the same objection holds equally in Liebig's and Ragsky's methods, which are, perhaps, the two most accurate at present known. Uric acid, also, is similarly affected by the hypochlorite, but it and ammonia ordinarily occur in such small proportion in urine, that the error produced would be but trifling, and is partly corrected by taking the calculated quantity of nitrogen, which is, as I have shown, something more than that derived from a certain quantity of urea by direct experiment.

In cases where ammonia or uric acid occurs in more than ordinary quantity, these substances must be separated by the usual means employed, before having recourse to my method.

I should think that gently heating the urine with a certain quantity of baryta water, as long as the odour of ammonia is disengaged, and then filtering the solution, as recommended by Liebig, for the separation of ammonia before applying his method (see the '*Journal of the Chemical Society*,' vol. vi. page 30) would effect the object very easily, and separate not only the ammonia, but also the greater part, if not all, of the uric acid present.

There is one other source of error which may arise, and which can easily be avoided; it is the following: that if a solution of hypochlorite of soda alone, or standing over mercury, be exposed to the light for several days, it will very gradually evolve a very minute quantity of oxygen. So that the experiment in determining urea should not be carried on for too long a time, but a day, or even two, will scarcely make any appreciable effect on the quantity of gas evolved in testing the urea.

The reaction which appears to take place in the process seems to be the following: the hypochlorite of soda reacting on the urea gives rise to nitrogen, water, carbonic acid, and chloride of sodium:—

	Urea.	3 Hypochlorite Soda.
Thus,	$C_2 H^4 N_2 O_2$ +	3 (ClO·NaO)
	$= N_2 + 2\ CO_2 + 4\ HO + 3Cl\,.\,Na.$	

The nitrogen is evolved and the carbonic acid is absorbed by some of the hypochlorite of soda in excess, for I find that this salt absorbs carbonic acid very quickly, without evolving any other gas, and I have failed in several experiments to detect the smallest portion of carbonic acid gas in the gas produced by acting on urea, though I have always noticed

the presence of a very minute quantity of oxygen in the nitrogen.

These appear, from my experiments, to be the changes produced; but this part of the subject I have not as yet minutely examined, and my experiments have hitherto been made on healthy urine; but I have ascertained that several of the substances found in urine during disease, as, for example, sugar, albumen, bile, and excess of urinary colouring matter, produce scarcely any effect on the results obtained by this new method of determining the quantity of urea in the urinary secretion.

ON THE USE OF CHLOROFORM IN SURGERY.

By J. E. Erichsen, Esq., F.R.C.S., Surgeon to University College Hospital.

Mr. Erichsen lately delivered a highly interesting and practical lecture on the use of chloroform in surgical operations, a subject which seems not to have attracted that specific attention in the shape of clinical lectures that its importance deserves. Mr. Erichsen commenced by dwelling on the very great boon to humanity the use of anæsthetics had proved, lessening human suffering and, *pro tanto*, depriving surgery of many of those disagreeable features which it must always, more or less, present to the popular understanding and feeling.

"Chloroform has proved an immense boon," said the lecturer; "if any of us were to undergo an operation, what a matter of resignation and satisfaction it is for us to know we can undergo now without pain what before was surrounded with torture and misery. There are positive advantages, too, in the use of chloroform. We are not now, as surgeons, harrassed by the shrieks and cries of the patient, which even the most manly and resolute surgeon cannot disregard; nor are we, in operations, as before, obliged to operate 'against time.' Every second given unnecessarily to an operation, before the introduction of chloroform, was an age or world of pain and torture to our patient; now, the sleep of chloroform makes the patient forget everything, and if we might be for once poetical, the patient might with Helena, in the *Midsummer Night's Dream*, hail it as a boon as

> "Sleep that sometimes shuts up sorrow's eye,
> Stealing one awhile from one's own company."

All these advantages of anæsthetics in surgery must be obvious to you. I wish we could stop here, but there is always some little drawback, something to mar the perfection of our discoveries. What is this we read? *Surgit amari aliquid, medio de fonte, &c.;* some one drop of bitterness behind, something unfortunately which shakes our confidence in this great discovery, of which we had a too striking instance lately in this hospital. Accidents of a painful and serious nature will occur ever and again. We are not, however, at all to give up chloroform, we must rather strive and eliminate those cases and causes of danger, and for the future use more precaution. These cases of death are sobering lessons, which we should all strive to understand.

"I would wish at present to say a few words as to the mode of administering chloroform. This is a thing which every one should learn, for I am satisfied a very great deal depends on it. You may give your patient an over-dose of chloroform when you least expect it, and an over-dose in some patients will be another word for death. And first, as to the relative value or safety of the inhalers or the advantage of a common piece of lint and oiled silk. I do not think this signifies very much, the chief advantage of the tubular inhaler I here show you is, that you know the quantity used, which should always be measured, while, when you use lint there is more or less wasted. Yet I think this is counterbalanced in the use of lint, by the gradual and safe mode in which you bring your patient under chloroform, while in the instrument or apparatus it may be that the vapour is too concentrated. You will find a great deal written, from time to time, on this point; it is, after all, not one of much moment, and as you may be obliged to use chloroform where there is no apparatus, a preference may be given to the lint. You pour a drachm of chloroform over a piece of lint the size of the hand, do not over-saturate it, place this over the patient's nose and mouth, and then throw a towel loosely over your hand while applying it. You may find it necessary now to replenish the chloroform after a little, as the lint gets dry, and here I would impress on you the necessity of remembering the second quantity is much more dangerous than the first, the patient, for what you may see to the contrary, may be on the verge of a precipice, in the balance between life and death. The great point to be attended to is, *watch the pulse*, as, when danger threatens, it becomes perceptibly feeble, and smaller. The effect of chloroform on the heart is peculiar: at first it quickens the pulse, indeed the general effects on the brain and nervous system at first, so intimately connected with the

heart, is one of excitement; you see the patient pull and drag almost as if drunk. You see this every week at operations. The chloroform now, in fact, has been absorbed and has got into the system; to this state rapidly succeeds the full anæsthetic effect; there is partial paralysis also of the respiratory muscles: the respirations are less frequent, the pulse slower, and a very peculiar appearance of the eyes. I am led to believe in this state, under the action of chloroform, our patient is on the 'verge of death,' and requires our most serious attention; we must in particular be guarded by not giving an over-dose (indeed, Professor Murphy would rather err on the side of safety, and operate before sensibility is entirely abolished). Patients may be kept a long time under the influence of chloroform, in fact for hours, by intermitting its exhibition for a short time, and then applying it again. We now come to a most interesting and most practical point, namely—the mode in which death takes place, for, after all, this is a point we cannot too seriously study. Our experience of deaths from chloroform is yet necessarily limited, but the two chief modes by which this fatal result is brought about are—asphyxia or syncope; the former is not so common as the latter, but chloroform, it is quite possible, may thus kill by simply excluding atmospheric air, as if a patient, in fact, were inhaling nitrogen. This remark is more applicable as putting us on our guard not to give chloroform in a too concentrated shape. We most undoubtedly interfere with healthy respiration during the inhaling of chloroform, but this is different from entire suspension of the process; we have, in fact, two modes of death, as so well described by Bichât. This asphyxia, as if poisoned by carbonic acid or nitrogen, and again, syncope, from the heart's action stopping. We had a sad instance here lately of observing a case of this kind, which was at once a matter of very serious anxiety, you recollect, to all of us, as well as a case from which you may have learned a great deal. I dwell particularly on it, as it is a thing happily not often seen, and the less frequently the better; it is a case which, in private practice, may come on any of you like a thunder clap, and there is no cleverness or ability in disregarding human life. Our art of surgery is all intended to *save* and prolong human life, but if in the moment of doing so we do the opposite, it will be looked on by the public very unfavourably. We should consider it serious bungling to do anything else awkward, and cause death by opening a large artery for instance. Let us, then, give all our attention to obviate the accident of death from chloroform. This man

we speak of had fatty heart, but nobody could have suspected it, and I must also tell you that it is a species of disease very difficult to make out; you will remember his respiratory muscles stopped, he gasped, and in spite of everything we tried, he was beyond recovery. This is so serious a matter that students can scarcely realise it; a whole family may thus be thrown on the world, and very great mischief done. Experiments have been tried on the lower animals; you may lay open the thorax, and watch the heart beating, but it will be as suddenly stopped by an *over-dose* of chloroform as by any over-dose of the most powerful poison; the muscles of the heart will not respond either to the action of galvanism; when we have this impending death from syncope, as I said before, you will find the pulse sink. This is the starting point, so to speak, of a set of fatal symptoms which soon follow, including stoppage of the beatings of the heart, impeded action of the lungs, &c.

"The next point that offers itself to our notice is one also of very great interest, namely, whether nervous depression should prevent or contra-indicate the use of chloroform, it is one at present very much discussed; whether, in a word, we should use chloroform during the shock of a severe injury, as in a gun-shot wound. We should not make this a question of this or that school (Edinburgh, or Constantinople, or London) but learn what is the truth. I believe chloroform may be safely used during nervous shock from gun-shot wound, as we use it in hysteria, or the shock of delirium tremens; nay more, I rather think it acts beneficially, I think it rather lessens 'shock after operation.' We cannot, of course, use too much caution or care when the constitution has received a serious injury, but I should not be at all inclined to deny a patient chloroform on that account alone; pain is a much more horrible shock and depressor of the nervous system than chloroform, pain of a knife is not at all a stimulant. There is another form of disease, as in that man we operated on for last with varicose veins, which I think contra-indicates chloroform much more than 'shock of an injury.' I allude to old bronchitis. Where we have a man with one lung, or a lung and a half, I am very chary of using chloroform; take care of those cases of men with chronic cough and feeble pulse. I fear I cannot say much on fatty heart, it is a very obscure affection, we know it by the usual phrase—the 'heart is weak;' it is an affection, as I have also said, not easy to diagnose; we can easily make out valvular disease of course, but the signs of fatty heart are rather negative than positive.

"Fatty heart, it must be remembered, is a disease which often kills by itself. A man drops down dead in the street, possibly, at some little mental emotion—an omnibus or something of the kind, runs against him; he has had fatty heart. It is now a question whether the mere apprehension of an operation may assist as a cause of death. Chloroform should be used with caution at the extreme periods of life. In children I think it advisable to dilute the chloroform with equal parts of spirits of wine; perhaps in very old people also it would be not undesirable to do the same; we thus, perhaps, insure a good mixture of atmospheric air, and prevent the chloroform being too concentrated. Now as to *treatment* of those apparently dying from the effects of chloroform I have very little to say. Artificial respiration is the chief and primary object; the surgeon has not a moment to spare; and his own breath will be best. I would pull out the tongue, and thus throw up the opening of the larynx; I have seen this effectual in two or three instances. The next most valuable agent will be galvanism, a sharp shock through the region of the heart; if any contractility happen to be left this will restore the circulation; rubbing brandy to the palate and top of the larynx may also do good by exciting any reflex movements not permanently distinguished."

ON BREEDING HORSES.

The great and very general mistake committed by the farmer in the breeding of horses consists in thinking any shape or sort of animal, on the female side, "good enough to breed from." Accordingly we find young animals void of one single point of recommendation; colours many, and most disagreeably marked, and every point of excellence wanting. Experience in breeding has not been able to fix the limits of excellence that are conferred by the male and female respectively; and in the absence of any certainty, we may very reasonably allow an equal share to each agent in the business of procreation. All the sensitive parts may be derived from the female, and the male may confer the robust qualities of organization. It may be safely asserted, notwithstanding the strong and very general prejudice against it, that the value of the progeny depends fully as much, if not more, on the dam than on the sire; and that from the neglect of this maxim many failures and miscarriages have proceeded. An excellent kind of horse for farm purposes may be obtained by

selecting a choice brood mare of the black-brown or dark-grey colour, large in body and well-shaped, carcase roomy, bone thin and flat, and legs clean from shaggy hair; one cross from a strong thorough-bred male would produce an offspring combining strength and action, and possessing power, with spirit to exert it on strong lands, and quickness of motion for light soils, and for all work that requires a rapid execution, without being encumbered with a heavy lumbering carcase, which is most erroneously supposed to constitute strength. The female will impart size, strength, and vigour of constitution capable of performing any work that is required; and the male will supply spirit and muscle to put the strength into action in any instance of time or purpose. This breed would be almost invaluable if discrimination and judgment be used in selecting the parents, especially the female; the progeny suits many purposes, and a further cross would remove them to the hunting stud. A less degree of breeding on the side of the male may be considered sufficient, which would produce animals of great use for farming purposes.

The farmer must be very careful in selecting the female, and may allow a somewhat finer quality, in the male, but not so far different as to form an unseemly distinction. The qualities of animals that are assorted for propagation should be much alike; for if a very wide gap exist, many crosses must intervene before the qualities could be made to approximate. The properties will be more usefully developed in the process of like qualities advancing step by step to better, than in the ill-consorted adaptation of extremes, which in the process of meeting may be expected to yield many irregularities.

Much breeding has been attempted in this manner, and has been stopped before the results had time to appear, either from unavoidable circumstances or from an ignorant impatience. The farmer who has the command of ample means, and who has provided himself with better ideas, will not hesitate to adopt the highest mode that is here recommended; while the cultivator who is obliged to tread in an humble path, and who has not at command the necessary ideas and the ready application of them, may be most earnestly exhorted to use the materials that are within his reach, though they be of an inferior order, but which by a steady progression will lead to the same end.

Again the farmer must be reminded that all success in the breeding of animals is based on the selection of the parents, and the treatment of the progeny. The fundamental axiom

consists in "like produce like:" and this maxim applies not only to the production of the qualities of external form and utility, but to the constitutional vigour and the predisposition to disease. Experience has most fully shown that no animal is more liable than the horse to transmit blemishes as well as beauties, and that the diseases of all sorts are transmitted to the progeny; if not in the first generation, they very speedily appear in that immediately succeeding it. This consideration increases the necessity of a judicious selection; for the propagation of diseases of any kind is even worse than the continuation of unsightly forms and of condemned points.

The mare from which the farmer intends to breed must be free from disease of any kind; carcase roomy—barrel wide, large, and round formed, with the ribs curving from the back, the short rib "well home," or leaving a small space between it and the hook bone—thighs deep and muscular—bone of the legs flat and thin—clean of rank hair—must have no appearance of swelling or any kind of thickness—feet clean, firm, and sound—pasterns short, but not thick and greasy—the arm in front wide and brawny—chest deep—shoulders oblique, and sloping backwards at the withers and shortening the back—top of the shoulder narrow—neck rising in an arched form from the withers, and drooping a little to the set on of the head—crest strong and firm, and thickening downwards—ears long and fine, and quick in motion—eye prominent, bold, quick, and lively—face broad between the eyes, and tapering to the muzzle—cheek-bone not very broad, which shows coarseness—muzzle small—lips short and thin—nostrils expanded, but neat—fore-legs standing well forward, and not under the belly of the animal—bone clean, and short in hair—feet standing concave, and not flat—knee-joints flat and broad—colour of the animal black, or black-brown, with white on the hind feet, but no more. A variety of colours shows much cross descent. Horses that are white, or even having a white hair mixed in the coat, as grey horses, are reckoned to be delicate in constitution, and experience seems to confirm the observation.

The most objectionable points that the farmer has to guard against are heaviness of form and dulness in action, and round, heavy, hairy legs. These latter indicate disease, and never fail to constitute a dull, lumbering animal, with a sluggish motion and a funeral pace. In order to remedy this defect, ample elements exist, so soon as the farmer is able to divest himself of the idea that bone and flesh constitute strength. A heavy belly of great depth of rib is also

objectionable, showing a great quantity of offal to be carried about in a loose state in the shape of guts and entrails. A great point in breeding lies in reducing the size of useless parts, and in getting rid of unnecessary appendages, and the lightness of offal ever forms a point of excellence. Huge bulks must be reduced, and it always formed a leading point with our first breeders to diminish the size of the animals, in order to acquire symmetry and compactness, it being an invariable law of nature that bulk is always attended with a corresponding degree of coarseness. This point, however, must not be carried too far, as has often been done in the case of animals that are fattened for the sake of the flesh, as smallness of size is not so objectionable, as a greater number may be kept; but with working-horses the case is widely different, where a certain degree of size is indispensable in order to effect purposes where a specific strength *only* is applicable. The object of the farmer, therefore, is to retain a certain size in the animal, and to impart to that bulk the necessary points of muscle and spirit. But this point cannot be gained without reducing the bulk in some quarter; and that reduction must take place in the useless parts, in the quantity of bone, of offal, and of flesh; and the increase must be made in the necessary parts of muscle, spirit, and action. The productions of nature are so varied, that an ample store of the elements almost everywhere exists; one animal is found of a finer form than another, produced by accident—and these varieties afford the instruments with which the further improvement is effected. No organ in the animal body shows the results of a superior organization more quickly and more durably than the eye: in every case of refined systems it is prominent, pert, and lively, and forms a point of great importance in the selection of animals. When the body is in a state of inaction, the visual organ should appear placid and easy; but when any symptoms of exertion are required, the eye must ever give the first signal, and communicate to the other parts the intelligence that the time of action has arrived: and these parts must ever be ready and willing to obey the summons by being closely knit and joined in combination, compact, and ready for action, and not loose and disjointed and far between. A horse may be called society in miniature, the component parts of which must be ready for action and polished for use, and adjusted so that each part assists the other in the most direct, the most rapid, and most precise combination. These qualities are obtained under the name of "spirit" and "action," and

proceed from a superior organization produced by the assorting and joining the similar parts in combination.

The qualities of the male require a similar examination; for though the best animals are usually kept for the purpose of propagation, yet a discrimination is essentially necessary. The animal must be clean-legged, with a flat, thin bone; barrel rounded, and carcase rather light; lofty, oblique shoulders, tapering withers, arched neck, and a small head; eye impetuous, but, at the same time, placid; ears fine and quick in motion, jawbone narrow, and the muzzle tapering, colour black or black-brown; the hind legs white a little above the fetlock, with a white dot on the forehead, and a white stripe down the face are no objection, but any further mixture of colours must be rejected. It is a sign of hardihood when the legs are darker in colour than the body. The grey colour of the horse is fashionable; but, unless the colour is very dark, it becomes white in age, and experience has shown that colours having even a degree of white in the composition denote feebleness and a slight delicacy in the constitution of the animal. The black-brown or dark-bay seems to be hardiest of all colours; and an animal of that sort, when well bred and of uniform colour throughout, shows a production of skill and judgment.

An extreme attenuation of the parts of an organized body is as bad as the gross composition of it; for, however desirable the refinement may be, substance or the necessary bulk must be retained, not only in the horse, which requires strength to sustain exertion, but in all the animals that are used in the easy purposes of producing fat and flesh. It is more valuable in the horse, because the deficiency cannot be supplied by the addition of number: one animal has its prescribed performance to execute, and must be independent in itself—the other animals can be increased to make up the required amount.—*Mark Lane Express.*

THE HISTORY OF THE HORSE.

By Chiron, M.R.C.V.S.

The first inhabitants of the earth no doubt regarded the horse solely as an object of prey. They would meet it when they roamed across the valleys or rested near the streams. Those parts of the land which the horse would naturally choose, man likewise, for obvious reasons, would select; nor could it be long before the beast which instinct told to shun

the thicket, caught the watchful eye of the savage. The size of the brute would render it conspicuous, and its open habits, no less than its noble appearance, would mark it for the chase.

In the first age we may assume that the human species chiefly fed on flesh, and the primitive horse, we may conjecture, was regarded only as a luxurious food. All nations that have been accustomed to consume flesh of this kind, have esteemed it preferable to most others; and in some great feasts no other species of meat is thought worthy of the occasion. Could we overcome the aversion education has engendered, it may be reasonably supposed such an addition to the table might be acceptable even to ourselves. It is asserted that in Paris much horse flesh is regularly manufactured into articles of delicacy for the table; and this custom is so notorious, that the Chamber once seriously contemplated legalising its sale. We have not ourselves ever tasted horse-flesh, and though frequently tempted to make that experiment, have never yet been able to overcome our repugnance; but in the pursuit of our studies we have repeatedly dissected both the horse and the ox. The flesh of the two animals presents a perfect contrast. Compared with the flesh of the horse, that of the ox is coarse in the extreme, the two presenting all those differences that would distinguish the finest cambric from the coarsest canvass. The fibre of the horse is delicate, and the colours it displays when fresh would defy the pencil to imitate their beauty. The fat of the horse also is more transparent than that of the ox; and though some authors have erroneously stated that this part of the animal never "sets" or becomes hard, it is certainly true that it never assumes that opacity and firm consistency which characterises the suet of the ox. The muscles of the horse are arranged more symmetrically, and the general aspect of the creature's frame, upon dissection, enforces the idea that the beast is of a superior order. Few have dissected the horse without imbibing a kind of respect for the brute; and to such a degree has this feeling, in several instances, been indulged, that there are many veterinary surgeons who will attend upon no other animal.

The delicacy and beauty of the carcase, however, rather disgusts than tempts the appetite, and this circumstance, added to the value of the horse, has, perhaps, taught us not to feed upon its flesh, which, by such as have tasted it, is spoken of as being rather sweet in its flavour, and as eating with a peculiar shortness, being easily masticated.

The flesh of the ass was, by the Romans, held to possess

medicinal virtues, as the milk of the same animal is thought to do at the present day. Quarters of this beast were formerly exposed for sale in the market-place of antient Athens; and now, it is said, that asses' flesh constitutes the main bulk of genuine Bologna sausages. The moderns, therefore, have not altogether lost the relish for this description of food, for, not to dwell upon the illicit sale of horse-flesh in the French capital, the consumption of asses' milk and Bologna sausages in this country denotes a taste which once was universal, but is now only daintily exhibited towards a particular creature of the equine race.

Acceptable as the flesh of the horse may have been to the palates of the early representatives of mankind, it is not probable that they were able to indulge to excess on this kind of food. The animal was difficult to approach, and could hardly be taken by surprise. Once alarmed, pursuit was hopeless, and in a close encounter the issue would have been very doubtful. It is therefore probable that the horse was originally captured by means of pitfalls, and similar practices common to all barbarians. The carcase was alone desired, and the life of the victim of course in no way regarded.

This state of things would continue until the human race began to cultivate the earth, about which time, probably, man became by slow degrees desirous of some assistance in his toil. At first the horse would not appear to be the creature likely to render the desired help. Smaller animals, more easily captured and more readily tamed, would naturally be selected at the beginning; but as the inefficiency of these became apparent, and man became aware of the mastery with which nature had endowed him, the experiment would be enlarged. From the goat, sheep, ox, and ass, up to the horse, a kind of natural gradation can be traced, and probably somewhat in this order did the human mind learn its power over the beasts of the field.

There are many stories told of the manner in which the horse was tamed, but as all these tales represent the brute as caught in the adult state, and subdued by a single individual, none of them can be regarded in any other light than that of a fable. The most perfect horseman, or most accomplished brute tamer, has in modern times found himself incapable of breaking in the Zebra, and there can be no reason to suppose the ancient savage was possessed of a particular prowess. These stories likewise represent the original horse-breakers as taking to the business after they had attained to manhood, whereas it is only by constant practice from the earliest youth that a firm "seat" can be

attained. That the horse, when captured alive, was occasionally mounted in sport, is not unlikely, and that many accidents were thereby occasioned is also far from improbable, but that the primitive wild horse was ever caught and *ridden*, is not for an instant to be credited. Before such an act could be performed, man himself had to learn the equestrian art.

A foal was caught and reared. Bad treatment, or such treatment as a savage would bestow, weakened the spirit of the captive, and taught man to cast aside much of his fear. The poor enervated brute was practised upon till the human race became somewhat familiar with its habits. At first it was an ornament to the cabin, and by slow degrees only was it brought to share its master's labour. Ages would pass away in the joint education of the man and beast, before even this slight advance was made, during which other foals would have been caught and reared. The race bred in and in, and something of the original disposition was eradicated by the propagation of the species in a state of bondage rather than domestication; but of that original disposition we shall treat hereafter.

THE VETERINARIAN, DECEMBER 1, 1854.

Ne quid falsi dicere audeat, ne quid veri non audeat.—Cicero.

Once more, we find ourselves penning a leader for the concluding month of another old year—of a year which has proved (indeed, is proving), terribly disastrous, and yet glorious to us as a nation; costing us loss of lives of countrymen most dear, and of horses most valuable, and depriving us of services of both, at a critical juncture too, when such deprivation is turning out sorely lamentable to us. Both men and horses have bravely fought, both have nobly fell; and now lie prostrate, lifeless carcases upon the battle field, doomed to become the prey of the Cossack—the one eagerly sought after on account of his splendid and costly uniform, the other for food to satisfy the depraved appetite of the ruthless plunderer.

We read with much satisfaction and gratitude accounts of

(abundant, we hope), means and appliances, suitable and remedial, as far as human aid can be, for our poor sick and suffering men; but what accounts have we of any provision, in the shape of medical aid and tendance, for the wounded and suffering horse. From having partaken, in some degree, of the two former campaigns, viz., of Peninsula and Waterloo, we well know how difficult, and too often impossible, a matter it is to provide, anywise adequately and effectually, for the wounded and sick, or even for the lame horse. The regiment he belongs to is on the march, or even on the field; the division of the army of which the regiment forms a part is on the move to another region of the country; the poor animal is doomed either to follow in the rear, probably painfully hopping, or, lingeringly being dragged along, in the faint hope of his becoming better or proving sufficiently amended to reach any proximate depôt of sick there may happen to be formed. On a campaign, in times of marching or actual fighting, little scope is afforded for the exercise of the veterinarian's skill, or even for his ability to obtain such accommodation for the sick and wounded horses as would enable him to administer to their immediate requirements; on the contrary, it too often happens that the occasion is such as either to prove compulsory on himself and his patients to move onward, in the wake of the marching body, or else on the spot, as a point of absolute necessity requiring decision, consigns the latter to a lamentable but unavoidable end.

That any special arrangement or provision has been made for horses which may be wounded, or may fall sick among the troops employed in the Crimea, we have no intimation, further than that certain Regimental Veterinary Surgeons were at first selected and nominated *Army Veterinary Surgeons*, to be detached from their regimental duties to take upon themselves the not very desirable task of *purveyors of horses*, in order to keep filled such defalcations as from various causes befal the ranks; and, at the same time, to provide such bat horses as may be required, or otherwise, to admit of being posted at divers stations, to take charge of such cavalry depôts as might thereat be formed, for the

accommodation of those horses that might be rendered temporarily unfit for active duty, or appear likely to remain for some time disabled or invalided. Further than this, we have heard of nothing special being done for the occasion; indeed, at the commencement it was hardly to be conjectured what might be further required, though it would appear, from the beginning, that veterinary surgeons, like surgeons, have by degrees had their number augmented; showing an increased demand for their services. Of late, scarcity of water, and a consequent difficulty of procuring sufficient for the consumption of the horses of the troops in the Crimea, has manifested itself, and is indicating the country as unfitted for the employment of cavalry. Another year, in the event of the war continuing, it is not unlikely that the theatre of such operations may be transported to other regions.

To "Practitioner," who writes to us for an opinion—"Whether or not it be better to allow a horse to remain in a box, violently kicking, plunging, &c., or to have him walked about?"—we reply: generally speaking, such cases proceed from the effects of abdominal spasm or pain, or of pain arising out of irritation of some sort, and are benefitted, in various ways, by exercise, even at times by trotting; though exertion, carried to an injudicious extent, may be productive of harm, especially in late or obstinate stages of the complaint.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Quarterly Meeting of the Council, July 5th, 1854.

Present—The President, Messrs. Ernes, Robinson, Silvester, Stockley, Professor Morton, and the Secretary.

W. Field, Esq., the President, in the Chair.

The Secretary read a letter from Mr. C. Percivall, acknowledging his election as Vice-President, and also the copy of

the following letter of condolence, written by the President on behalf of the Council, to Mrs. Henderson :

My dear Madam,—In accordance with the unanimously expressed wish of the Council of the Royal College of Veterinary Surgeons, I venture to convey to you the sincere and deep sympathy of every member of that body, on the sad and irretrievable loss you have sustained in the death of your universally beloved and most highly respected husband. The loss indeed is not all your own, for very many will feel, that a sincere friend, a kind-hearted and intelligent practitioner, a valuable officer, and an honest and independent member of the veterinary profession, is taken from us.

That Providence may enable you and yours patiently to endure the heavy and severe affliction fallen on you, is a prayer in which no Member of the Council joins with deeper feeling, than

My dear Madam,
Most sincerely yours,
W. Field, President.

To Mrs. Henderson.

Mr. Silvester proposed that Professor Morton should fill the office of Treasurer, in the place of Mr. Henderson, deceased.

Mr. Ernes seconded the motion.

A ballot was then taken, and Professor Morton was unanimously elected.

On the ballot being taken for the election of a Member of the Council, in the place of the late Treasurer, Mr. H. Lepper, of Aylesbury, was declared unanimously elected.

On the motion of *Mr. Silvester*, seconded by *Mr. Ernes*, a committee was appointed, consisting of the President, the Secretary, Messrs. Robinson, Stockley, and Silvester, to consider the subject of the appointment of non-members of the body corporate as Veterinary Surgeons in the Army and the Honorable East India Company's service.

The President suggested that more increased publicity than had hitherto been obtained should be given to the proceedings of the College; as, for instance, through the columns of the *Times*, in order that the body might be better known and more fully recognised.

The Treasurer was authorised to draw cheques for £125 6*s*., and the proceedings terminated.

QUARTERLY MEETING OF THE COUNCIL, OCT. 25TH, 1854.

Present—The President, Messrs. DICKENS, GOODWIN, PEECH, SILVESTER, STOCKLEY, TURNER, and WITHERS; Professors SIMONDS and MORTON, and Mr. GABRIEL, Secretary.

W. FIELD, Esq., the President, in the Chair.

The minutes of the previous meeting were read and confirmed.

On the motion of *Mr. Silvester*, seconded by *Mr. Dickens*, Mr. S. W. Rogerson, of Bedford, was unanimously elected by ballot as a Vice-President, in the room of Mr. F. C. Cherry, deceased.

The Secretary stated that the Committee appointed to communicate with the Horse Guards and the India House, were proceeding with their labours.

Mr. Turner suggested that a list of the names of *non*-members of the College, who had been appointed as veterinary surgeons in the army, should be placed before the authorities, and that the Council should not be satisfied with making mere general complaints.

The Registrar laid before the Council a copy of the new printed register of the members of the College, containing about 1400 names.

The Treasurer's report was then read, showing a balance in hand of £255 4*s*. 8½*d*., inclusive of the cheques drawn this evening.

The following presentations were made, and the Secretary was directed to acknowledge the same.

The Veterinary Record and Transactions of the Veterinary Medical Association, presented by the Veterinary Medical Association, through Professor Morton.

A work on the Age of the Ox and the Sheep, by Professor Simonds, by the author.

A fœtal colt, presented by Mr. Dickens.

The thanks of the Council were voted unanimously for the various donations.

The Treasurer was authorised to draw cheques for the current expenses of the quarter.

Messrs. Morton, Silvester, and the Secretary, were named by the President as the Committee of Supervision of this and the previous Meeting, and the proceedings terminated.

W. H. MORTON,
F. R. SILVESTER,
E. N. GABRIEL.

We are requested to state that the new Register of the Members of the Royal College of Veterinary Surgeons is now published, and may be had on application to the Registrar, at the Institute, 10, Red Lion Square. The price of the Register is one shilling, and the postage sixpence.

THE TURNER TESTIMONIAL.

The Committee met on the 13th November, when it was resolved—

"That a portrait of T. TURNER, Esq., first President of the Royal College of Veterinary Surgeons, be obtained, and placed in the Institute of that body.

"Further, that the subscription list be allowed to remain open until the end of December.

MISCELLANEA.

EDITORIAL REMARKS

To a letter dated June 10th, 1851.

"MAD DOG!"—This alarming cry would seem to have been at least prematurely dinned into the ears of the frightened public by such a very early ukase against the liberty and comfort of the canine race, issued by orders of the Mayor. But if there be any truth in the revelations of modern science, it appears that such a thing as a mad dog is a popular delusion, and one of a very serious nature, the dog, in fact, not being at all subject to the hitherto terrible disease of hydrophobia. Such is the view of the matter put forth with much ability by Mr. Litt, veterinary surgeon, of this town, in a letter in our present number; and by a singular coincidence an opinion confirmatory to the fullest extent of Mr. Litt's view has been recently expressed by Professor Dick, at a meeting of the town council of Edinburgh, which will be found in our columns under the head "Scotland." If those opinions be correct—and they are surely entitled to every consideration—the practice of muzzling those animals at all—which is at best but an uncertain safeguard to man, and a very irritating punishment to the dog—may be dispensed with entirely, and the apprehension of one of the most hideous maladies known banished for ever from men's minds.

SINGULAR ACCIDENT TO A HORSE.

On the night of Sunday last a somewhat singular accident happened to a valuable horse, the property of Mr. F. Greenwood, of the Maidenhead Hotel, Oxford, which he had recently purchased. Early on Monday morning the ostler went, as usual, to the stable, and was surprised at not seeing the horse there, as he had been tied up safe enough the previous evening. On a lanthorn being procured, he was thunderstruck on finding the poor animal in a well with his back broken. It appeared, from the position of the horse, that the covering of an old well had given way, under the horse's hind legs, and that in struggling the halter broke, and he fell backwards into the well, which was nearly dry, and about twenty feet deep. Mr. Greenwood was not aware of the existence of the well, which has not been used for many years. By means of pulleys the horse was extricated, but was found to be quite dead. The well had been covered over with oak slabs and dirt, and the surface pitched with bricks. The slabs were completely decayed, which caused the other portions of the covering to give way.—*Morning Advertiser, Jan. 25th*, 1854.

CANINE SAGACITY.

A curious and very interesting instance of the sagacity of "man's faithful friend," the dog, occurred on Monday last, at Sterling Park, the residence of Samuel Tardrew, Esq. There were a large bull-dog and a Newfoundland dog kept about the premises for their protection, and on Monday, as a little boy was carelessly wending his way along the path leading from the turnpike-road to the house, the bull-dog broke the chain with which he was fastened, and sprang fiercely on him, and commenced savagely tearing him. The poor little fellow being dreadfully frightened with the suddenness and severity of the attack, cried out for assistance most piteously. At this time the Newfoundland dog was in another part of the premises, but as soon as he heard the cries for help he darted away with tremendous velocity, and quickly reached the spot, and seizing the bull-dog with his powerful jaws, instantly flung him off his prey, and held him firm, until the boy got up from the ground, and was completely out of harm's way.—*Carmarthen paper.*

A MAN CRUSHED BY AN OX.

On Tuesday afternoon a butcher, named John Willis, who is employed as a slaughterman in Newport-market, had a very narrow escape of being crushed to death by one of the bullocks he was about to slaughter. It appears that he went into "the pound," where they are tied up, for the purpose of driving eight or nine of them into the slaughter-house to dress for market, and had nearly finished the job, when one of them, refusing to go into the killing-house, he proceeded to urge it forcibly, upon which the animal became infuriated, and rushing at him pinned him so firmly against the wall, that, had he not received timely assistance, he would undoubtedly have been crushed to death. On being liberated, he was carried to Charing-cross Hospital, where Mr Dalton, the house-surgeon, discovered, on examination, that one arm was severely fractured, besides internal injuries of so serious a character that he now lies in the hospital in a very precarious state.

A LITERARY DOG.

There is a dog in Liverpool that visits all the newspaper offices every day. He generally honours our establishment with his first visit. For some hour or hour and a half he reclines on the flags on one side of the doorway, eyeing the passers-by, and each person who enters. Then he rises, and proceeds to the next adjoining office, the *Standard*, where, having gone through the same observance, he repairs to the *Mercury*, and again renews his apparent penance. Thence he goes to the *Albion*, the *Journal*, and the *Times*, at each of which places he similarly spends about the same space of time, which completes his daily gyrations. It is surmised that he is the dog of some defunct newsman.

HORSE-SHOES.

"Their horses' hoofs shall be counted like flint."—Isaiah, v, 28.

The shoeing of horses with iron plates nailed to the hoofs is quite a modern practice, unknown to the ancients, as appears from the silence of Greek and Roman writers, especially those who treat of horse medicine: for this reason,

the strength, firmness, and solidity of a horse's hoof was of much greater importance than with us, and was esteemed one of the first praises of a fine horse. Xenophon, in his treatise on horsemanship, gives particular directions for hardening a horse's hoofs. For want of the artificial defence, which we use, Amos (ch. vi, ver. 12), speaks of it as a thing as impracticable to make horses run upon hard rock, as to plough up the same rock with oxen.

PRESCRIPTIONS IN LATIN.

The editor of the *Knickerbocker* ludicrously illustrates the necessity of a reform in medical nomenclature. Very much confounded, he says, was Dr. Doane, a few years since, by a remark of one of his patients. The day previous, the doctor had prescribed that safe and palatable remedy, the syrup of blackthorn, and left his prescription duly written in the usual cabalistic characters—"Syr. Rham. Cath." On inquring if the patient had taken the medicine, a thunder-cloud darkened her face, lightning darted from her eye, and she roared out "No! I can read your doctor-writing—and I aint a going to take Syrup of Ram Cats for any body."

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